THE MX MISSILE AND ASSOCIATED BASING DECISION

HEARING

BEFORE THE

COMMITTEE ON ARMED SERVICES
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THE MX MISSILE AND ASSOCIATED BASING DECISION

WEDNESDAY, DECEMBER 8, 1982

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, D.C.

The committee met, pursuant to notice, at 10:10 a.m., in room 1318, Dirksen Senate Office Building, Senator John Tower (chairman), presiding.

Members present: Senators Tower, Thurmond, Warner, Humphrey, Cohen, Jepsen, Quayle, Denton, Brady, Stennis, Jackson, Cannon, Byrd, Jr., Nunn, Hart, Exon, and Levin.

Staff present: James F. McGovern, staff director and chief counsel; Francis J. Sullivan, minority staff director; Alan R. Yuspeh, general counsel; Anthony J. Principi, counsel; Paul C. Besozzi, minority counsel; Christine C. Dauth, chief clerk; George K. Johnson, Jr., José E. Martinez, and Patrick L. Renehan, professional staff members; Karen A. Love and Jacquie S. O'Grady, staff assistants.

Also present: Dennis P. Sharon, assistant to Senator Goldwater; John Campbell, assistant to Senator Warner; Ron Kelley, assistant to Senator Humphrey; Jim Dykstra, assistant to Senator Cohen; Jon Etherton, assistant to Senator Jepsen; Hank Steenstra, assistant to Senator Quayle; Alan Cameron, assistant to Senator Denton; Colleen Getz, assistant to Senator Brady; Robert Nichols, assistant to Senator Jackson; Frank Krebs, assistant to Senator Cannon; Arnold Punaro, assistant to Senator Nunn; Greg Pallas, assistant to Senator Exon, Peter Lennon, assistant to Senator Levin, and Will Smith, assistant to Senator Jackson.

OPENING STATEMENT BY SENATOR JOHN TOWER, CHAIRMAN

Chairman TOWER. The committee will come to order.

The Senate Armed Services Committee convenes today to take testimony from senior administration officials on the MX missile and President Reagan's announced decision to deploy the missile in closely spaced based superhardened shelters.

The congressional directive that the administration select a survivable means of deploying the MX originated with this committee. Thus, it is appropriate that the first formal public congressional hearing on this matter be held by the Senate Committee on Armed Services.

Our distinguished witnesses today are appearing to discuss the administration's proposal for basing the MX. This is the first part of the committee's comprehensive investigation of MX deployment and the so-called Dense Pack concept.

The Secretary of Defense, Caspar Weinberger; the Chairman of the Joint Chiefs of Staff, General John Vessey; the Director of the Office Science and Technology Policy, Dr. George Keyworth; and Ambassador Edward Rowny, the Chief Negotiator at the Strategic Arms Reduction Talks, are prepared to set the stage today for our planned indepth review of this program scheduled for the next session of Congress.

Events of the past 24 hours have, of course, added special importance and urgency to our consideration of today's subject. The first congressional hearing follows yesterday's vote in the House of Representatives to eliminate funding for the production of the MX missile in fiscal year 1983. The House has taken an action of potentially enormous consequence without making any serious effort to develop a public record which supports such a decision. Some 80 percent of House Members have not even had an opportunity to be briefed privately about the complex technical questions involved with the Dense Pack plan.

At no time in my memory has the Congress treated a major national security program proposed by the President in such a cavalier fashion. The evident willingness of a majority of the House of Representatives to consider such an important issue without careful and full analysis is surprising and somewhat disappointing, particularly since this decision materially affects our national security. To make such decisions without sufficient information and considered debate is unfair to the American people. I trust the Senate will take its representational responsibilities seriously. On the other hand, I applaud the 176 Members of the House who by their vote illustrated their awareness of how critically important and technically complex this issue is. I am confident that a majority of the Senate will also want to take the time over the next few months so that their decision can be an informed decision.

In order to create a situation in which Senators can make an informed decision, the Armed Services Committee and its Subcommittee on Strategic and Theater Nuclear Forces will hold intensive and thorough hearings on all aspects of the MX/closely spaced basing proposal. This will create a full and balanced record on the subject.

We intend that it will be a balanced record. We will hear from people all across the spectrum of opinion on this issue.

Also I intend to offer, together with a number of my colleagues, an amendment to the Senate version of the fiscal year 1983 Defense appropriations bill which insures that no MX missile production funds will be obligated until after this record is available to the Senate for its review.

Similarly, restrictions will be placed on the expenditure of funds for aggressive research and development on the proposed basing system until March 15, 1983. This approach insures that the option to proceed with MX deployment in the manner recommended by the President is not foreclosed until the Congress is adequately informed.

This amendment will also guarantee Congress and the American people sufficient time to study seriously and debate fully the many issues surrounding the MX and the proposed basing mode before com-

mitting the United States to a further investment in this ICBM modernization program.

I trust that a majority of the Senate will elect to have whatever action ultimately is taken on MX be based on the facts, supported by a comprehensive public record, and thoroughly debated by the Congress.

Mr. Secretary, we welcome you and your colleagues to join with us today and in the weeks to come in developing the necessary record. I expect that your comments today will make manifestly evident the need for greater deliberation by the House and Senate on the numerous implications of the President's MX decision—and congressional action thereon—before the Congress can responsibly render a final judgment on this important strategic program.

I will insert the opening remarks of Senator Thurmond for the hearing record.

[Prepared statement by Senator Strom Thurmond follows:]

PREPARED STATEMENT BY SENATOR STROM THURMOND

Mr. Secretary, Ambassador Rowney, General Vessey, Dr. Keyworth, and General Skantze, it is a pleasure to have you here today. I would like to commend the administration and the Uniformed Services for the outstanding work that has been done in reaching the decision on MX and Closely Spaced Basing.

Action taken by this committee under the able leadership of Chairman John Tower required this decision be made by December 1, 1982 so that we could proceed with the MX program. After reviewing the data provided to support this decision and also the arguments against it, I am convinced that closely spaced basing of the MX missile is the proper direction for the program.

There is a great deal of public debate over deploying a so-called "first strike" weapon. The MX is not a first strike weapon. The program is designed to allow us to absorb a first strike and then retaliate in a manner that would cause unacceptable damage to the Soviets. It seems simple to me that survivable second strike capability and first strike are not synonymous terms.

Now I have served in the United States Senate for 28 years and I feel that it is safe to say that my voting record cannot be termed soft on communism. During my tenure here I have observed a few things about our country and the Soviet Union that I think are important.

From 1964 to the present the United States has had five Chief Executives who have had to manage defense spending through a consensus in Congress with much public debate over the need for increased defense spending versus spending for entitlements and social programs.

From 1964 until just a few weeks ago, the Soviet Union had only one leader. I do not know what the Soviets spend for entitlements, but I do know that they forced great deprivation on their people so that they could finance the largest and most threatening build-up of military strength in history.

The United States under varied leadership has tried in different ways to be accommodating toward the Soviets. The desired result was a lessening of tensions, restraint in Soviet aggressive behavior and a mutual reduction in the arms race.

Unfortunately the restraint was unilateral. The Soviets have developed the ability to destroy our Minuteman ICBM force while retaining a large reserve of ICBM's and all of their sea launched ballistic missiles and bombers.

Critics of the MX say that our bombers and SLBM's that would be left are enough, so MX is not necessary. We have allowed the Soviets to effectively negate the most potent leg of our strategic triad. If we do not proceed with a program to deploy a survivable land based deterrent the Soviets will turn all of their energies toward developing counters for our bombers and our ballistic missile submarines. How long will it be before the Soviets can develop such systems?

I for one do not feel it is enough of a calculated risk to wait and see.

Chairman TOWER. Senator Goldwater has submitted a prepared statement for the record. Without objection, his statement will be entered in the record at this point.

[Prepared statement of Senator Barry Goldwater follows:]

PREPARED STATEMENT BY SENATOR BARRY GOLDWATER

Mr. Chairman and fellow members of the Senate Armed Services Committee although I am unable to be with you in Washington during the beginning hearings on the MX missile system, I felt you should know my position. Simply stated, it is this: I support the production of the MX missile as a replacement for Titan and Minuteman missiles but I am not convinced of the requirement for the closely spaced basing mode which has been proposed.

The MX is important to counter the deployment of the newest of Soviet ICBMs. The improved accuracy and increased payload of the MX can contribute to our nation's security by putting the Soviets on notice that we are improving our strategic deterrent. In my view, we must also continue to strive for negotiations which will result in a genuine reduction in nuclear arms by both sides.

While I might eventually be convinced of the requirement for closely spaced basing, I am currently opposed. These have been too many changes and proposals for MX basing over the last several years and I am far from convinced that we have now settled on the best solution.

My recommendation is that we base MX missiles in the Minuteman silos. That is a sensible interim solution. If further study reveals a need for change, then the necessary basing adjustments could be made in the future. In the meantime, production of the MX missile should go forward.

We should not, however, approve the closely spaced basing mode at this point.

Chairman TOWER. I am delighted now to recognize the distinguished ranking minority Member of the committee, Senator Stennis.

Senator STENNIS. Mr. Chairman and members of the committee, I have a brief statement.

I am merely going to state my position as being in favor of the MX missile. My position is based on at least 10 years of hearings, study, and consideration of our needs. I am concerned primarily about the continued talks with reference to possible arms limitations. For my part, I told President Reagan before he was sworn in as President that I thought the most important work he could do, the most important problem he would face during his 4 years, would be on the question of a successful arms limitations agreement on which surveillance could be had.

I still believe this is the most important matter facing him. I regret very much to say, amid some confusion, even though I am not trying to assess blame, that the President has already made up his mind and has sent his emissaries to these negotiations. I understand President Reagan expects to go himself at the proper time, and he said that the MX is a part of his arsenal a part of his peacemaking plan.

If the legislative branch of the Congress is not going to back the Chief Executive in his decision in this far-reaching field, then we are in a bad fix.

I have no desire myself after the President has made these decisions here, to withhold from him his chief weapon and the chief part of his base of operation. I think we will make a serious mistake if we do that.

I speak with all deference of course to everyone and their opinion. This is a hard case. We have had this problem. Arguments have been made on the basing mode. Of course that has to be solved. I have said

this is the main point in these negotiations and it will have to be carried out.

I would like to have the rest of my remarks put in the record.

Chairman TOWER. They will be entered into the record.

[Prepared statement of Senator John C. Stennis follows:]

PREPARED STATEMENT BY SENATOR JOHN C. STENNIS

POINTS ON MX

Everyone wants some form of progress—success—in limiting nuclear weapons in the world. Many people, including myself, have urged the President to negotiate seriously and hard with the Russians. The United States sent a team to Geneva last June. They made a proposal to make major reductions—about ⅓—in the number of nuclear warheads on each side. Since then I understand both we and the Russians have been negotiating seriously about these matters and the Russians have made a counter proposal.

At the center of the American proposal was the M–X missile. In fact, I understand the whole proposal may be built around the M–X which would insure we could carry out our military missions at the reduced numbers that were proposed. If we cut the M–X out, we may cut the heart out of the arms control proposal and set it back substantially. We may so seriously weaken the American proposal that the U.S. could not continue to negotiate on that basis.

In summary, I believe we must move forward in limiting nuclear weapons by agreement. The M–X missile provides the means for the U.S. to substantially reduce its nuclear weapons within an agreement, while still providing an adequate deterrent against attack by the missiles that would remain on both sides. We simply should not pull the rug out from our negotiations and should not set the President back in his arms control efforts.

Chairman TOWER. Mr. Secretary, we would like to hear from you and from your associates. Then we will go to questions after we have heard from all witnesses.

Mr. Secretary?

STATEMENT OF HON. CASPAR W. WEINBERGER, SECRETARY OF DEFENSE

Secretary WEINBERGER. Thank you very much, Mr. Chairman and members of the committee.

On behalf of all my colleagues representative of the administration it is a great pleasure and honor to have the opportunity to appear before you to discuss these important matters. We are grateful for the opportunity.

I have a prepared statement which I would like to put in the record with your permission and I would plan to summarize it as briefly as possible so that we can get to the questions as quickly as we can.

Chairman TOWER. We will enter your statement in the record and you may summarize. That will apply to the other gentlemen accompanying you.

Secretary WEINBERGER. Thank you.

Before summarizing the statement I would like to state I associate myself fully with the remarks that you and Mr. Stennis have made concerning the MX and the necessity for the missile and the action of the House yesterday. I think that sums up better than I could, though I had planned to make a remark or two about it, the way we feel about the setback that the program received yesterday.

There was indeed every effort made to demonstrate that the vote itself was only on the procurement of the missile and that it did not

involve any discussion of the basing mode, and to have the production funds, even the reduced production funds, denied will constitute an action that will delay and therefore make infinitely more expensive the actual proceeding with the missile that I think most people agree we urgently need.

I would like to mention only briefly, Mr. Chairman, a point you alluded to—namely, that the President's decision was made on November 22 as to the basing mode in response to the direction of the Congress that he make that decision and report it to the Congress by December 1.

Even in that brief period we did offer briefings—specific individual briefings—to 250 Members of the House and 45 accepted.

In contrast, we briefed 30 Members of the Senate and originally we offered it to only 5 Members.

The briefings are obviously available and are offered to all Members of the House and Senate. There has been a limited amount of time since the President's decision, but again the vote yesterday was not on the basing mode at all. It constitutes, I think, both an unwelcome result and a very unfortunate signal to our allies and our adversaries around the world.

I think it is extremely fortunate that the Senate will have an opportunity to consider this matter also and ultimately in Congress we hope a better result can be achieved.

We should bear in mind also that the President had already agreed to a reduction of $500 million from the procurement funds requested down to the $988 million which the House vote yesterday struck.

I should like to say, Mr. Chairman, that the basic goal of this administration has always been and remains peace. Senator Stennis' remarks concerning the President's attachment to the peace process and the reduction of arms are absolutely correct. That is precisely what our goal is.

We have been searching for peace and we think there are two ways to get it. One is deterrence and the other is arms reduction, and we think these two roads are inextricably intertwined. They offer the only real promise of enduring peace.

The purpose of deterrence is to prevent nuclear attack, and the way to do that is to maintain sufficient military strength so that the cost of any aggression for any aggressor is so high that it will actually be deterred from starting that action or making that first strike. This simply means that we have to have an enduring, survivable retaliatory capability to inflict the kind of retaliatory cost that is the essence of deterrence. It has worked for some 37 years. There is nothing new about it. It is a policy that every administration since World War II has followed with success.

For deterrence to continue to succeed we have to take steps now to restore the strategic balance. For too long, a decade or more, we lost a great deal of the balance by neglecting to modernize and keep our strategic Triad strong.

At no time during this period did the Soviets fall into the same error. They improved. They secured greater accuracy and greater yield, and they took all the steps necessary to render our Minuteman system very vulnerable.

Indeed we believe 95 percent of the existing Minuteman system would be lost to a Soviet first strike, thus relegating us to the B–52 bomber, which you know will not be able to penetrate the Soviet air defenses for more than a very few years, and the submarine missile system, which does not have the accuracy or yield we need against Soviet hardened targets.

So we now have an urgent need to strengthen, to redress the neglect of the past several years that has weakened the balance and the effectiveness of our strategic deterrence.

General Rowny will have much more to say about the arms reduction phase because he is far more expert than I. But we do know under any circumstances it is going to be difficult to reach arms reduction agreements with the Soviets that provide for the kind of significant and verifiable reductions that constitute another short road to peace.

To do that both sides have to be willing to negotiate. Both sides have to be convinced that they have some incentive to enter into the negotiation, that it is in their interests to do so. Actions of the type taken yesterday, however, would offer great encouragement to the Soviets to think that they need not enter into any arms reduction talks, since they have no real incentive or need to do so because America would be telling the world that we would be disarming unilaterally; disarming to the extent of refusing to redress the balance, to regain the necessary strength in our strategic Triad and our strategic deterrence.

We could see other impacts from it. We could see an increasing reluctance to deal with the whole problem of INF strengthening that is now going on in Europe as part of the two-track proposals that NATO adopted in 1979. That is another essential element of this whole equation.

So, just summarizing, if we are going to restore the nuclear deterrence that is essential to maintain peace and provide incentive for armament reduction talks that are so vital for the peace of the world, we must have an effective program for modernizing our strategic forces.

I think the importance of maintaining all three parts of the Triad is self-evident, Mr. Chairman. We have to have as part of that Triad the intercontinental ballistic missiles.

They offer a unique contribution to deterrence. They are accurate; they are responsive; they have reliable real time communications with command authorities—and this is another element of the President's program that has very top priority with him—they possess short time to target capability, and they also offer alert rates that are significantly faster and thus more responsive in contrast to some of, the other weapons of the Triad that we also rely on.

Since the late sixties the Soviet Union has engaged in a massive destabilizing strategic arms buildup that threatens the survivability and retaliatory effectiveness of the Triad.

I was interested, if that is the right word, to read Marshal Ustinov's threat yesterday that they would immediately match the MX. I was interested because they took the steps necessary to do that 3 years ago and they have deployed a series of missiles that are far stronger, more

accurate and with a much heavier yield than those they had before. It is to deal with this additional threat that the MX was designed.

They are also working, I might add, on their sixth generation missiles, having deployed the fifth, and those no doubt will be ready for deployment very shortly. All of them have provided substantial increases in improvement over their predecessors.

They have also taken substantial steps to reduce the effectiveness of our retaliation. They have hardened their targets; they have spent a considerable amount on civil defense; and they have improved their air defense.

The MX missile, now called the Peacekeeper, has a very detailed description in my statement. I won't go into it in detail with you now, but I will be glad to do that with respect to questions.

I do want to mention just a couple of words about the President's choice of this basing mode.

You have to bear in mind that we had a number of constraints. This committee, I am sure recognizes the difficulty involved in developing a satisfactory basing mode in view of the extreme accuracy of Soviet guidance systems, accuracy, I have to say, that was obtained by the use of our technology which they took from us legally or illegally or both. That accuracy makes it very difficult to get a totally invulnerable basing mode.

A year ago October, the President proposed putting these MX missiles, into hardened Minuteman silos. But the Congress however, said no, not wanting any money or effort spent on that plan.

We respected that decision. At the same time or shortly thereafter the Congress said that it did not want any money or effort put into another form of deployment mode—an airborne deployment mode—and we respected and honored that decision.

We were also told we had to make the decision by December 1, 1982, and that decision was respected. But within those constraints the closely spaced basing system did evolve after a number of years of study. Some people have said it was just studied in the last few months, and that is not true. It did appear to be the one that offered the greatest possibility of the survivability that we need, and that is the essence of deterrence.

That is because we were able to design silos and missile canisters of far greater hardness than we had before, and we offered scientific tests and information that indicated the degree of hardness was fully attainable. It had not been attained in the past, because it had not been attempted in the past. But the new techniques, the new technology reports that we have now lead us to feel that we can attain the necessary hardness.

The hardening of the silos plus closely spaced basing offers a greater opportunity to take advantage of the phenomenon called fratricide. This again was recognized by the first Towns Panel that studied these matters in 1981.

As you know, the closely spaced basing involves deploying a 100 of these missiles in super hardened silos at close distances that maximize fratricide.

They do something else. They offer a much greater opportunity to defend the system if it is concluded that it is necessary to put in an

anti-ballistic missile defense later. Some have said the closely spaced basing will only offer us a survivable system for a very, very short time because the Soviets can counter it.

The Soviets would have to do a great deal to counter it. They would have to change their whole approach which is already in place and is now designed to deal with and destroy the Minuteman system with its widely spaced basing and with its lack of hardening. We will not go again into detail of what they would have to do to meet this new proposal and without new method of deployment, but it will be substantial.

While there is some dispute as to how long it will take them to do it, we understand they can do it. But it must also be understood, Mr. Chairman, that we will know when they start it. Thus we will have an opportunity to deal with whatever measures they take, either by such things as improving the hardness of the site itself, for which the technology is comparatively simple, or adding missile defense or deception techniques.

All of these are things that we know how to do, we could do and we could do in time. "In time" means when we see the Soviets starting to respond if we deploy Peacekeeper. That is why we have every confidence that if we start this system now and proceed with it on the steady pace that is planned with an IOC of 1986, we can indeed have a survivable ICBM leg of the Triad that will continue to serve the peace and help preserve peace through effective deterrence well into the next century.

That concludes the summarized version of my statement, Mr. Chairman. I greatly appreciate the opportunity to give it and I will be ready whenever you are to try to answer any questions.

In the meantime my colleagues have short statements.

Thank you, Mr. Chairman.

[The prepared statement of Secretary Caspar W. Weinberger follows:]

PREPARED STATEMENT BY HON. CASPAR W. WEINBERGER, SECRETARY OF DEFENSE

Mr. Chairman and members of the committee: It is indeed a pleasure to appear before you today to discuss our MX program, now called Peacekeeper. But before discussing the Peacekeeper decision that President Reagan announced to the American people and reported to the Congress a bit over two weeks ago, I would first like to discuss the broad context in which that decision was made.

The goal of this administration has been, and remains, peace. In searching for peace, we have been following two roads—deterrence and arms reduction. Together, they offer the only promise of an enduring peace.

The purpose of deterrence, a policy which has been endorsed by the United States and our allies since the beginning of the nuclear age, is to prevent nuclear war by maintaining sufficient military strength to make the cost to any aggressor for starting a nuclear war so high that it will deter the aggressor from ever starting such a war. If the Soviets know in advance that an attack on the United States or her allies would bring swift and effective retaliation, they would never attack. They would be deterred from ever beginning a nuclear war.

There is nothing new about our policy of deterrence. For almost four decades, every American administration has approved it and has seen it succeed. Deterrence has kept the United States and the Soviet Union from war in the face of major international tensions. However, for deterrence to continue to be successful in the future, we must take steps now to restore the strategic balance that was lost due to the relentless Soviet military buildup and our neglect of our

defenses during the 1970s. If we do not modernize our arsenal now, as the Soviets have been doing for more than 20 years, we will ultimately lose the capability to retaliate effectively—and therefore to deter.

Let me now comment on our second road to peace—arms reduction. We recognize that it will not be easy to reach a meaningful arms reduction agreement with the Soviet Union that provides for significant and verifiable reductions in nuclear arsenals. We have all borne witness over the past 15 years to the difficulties of reaching satisfactory arms agreements.

To achieve genuine arms reductions several things are necessary; first, both sides must be willing to negotiate. Both sides must be convinced that it is in their interest to enter serious negotiations. This is no mean feat. We saw this early in the Carter administration, when Secretary Vance went to Moscow with a proposal to reduce nuclear weapons. The Soviets refused even to discuss it because they had no incentive to do so.

Today, the Soviets are sitting down with us in Geneva and discussing the elimination of the most threatening and destabilizing of the intermediate range nuclear weapons in Europe—the land-based SS–20 missile. Also they are meeting with us in Geneva to discuss major reductions in our strategic nuclear forces.

This change in the Soviet position is due to the fact that they now have incentives to negotiate. NATO's planned deployments of Pershing II missiles and ground launched cruise missiles in Europe, missile systems which the Soviets clearly fear, have provided the Soviet Union with an incentive to negotiate reductions in intermediate range weapons. And our plans for modernizing our strategic nuclear forces with the Peacekeeper missile, the B–1 bomber, cruise missiles, and the Trident submarine forces have given the Soviet Union an incentive to negotiate reductions in our and their strategic nuclear forces.

But sitting down to negotiate is only the first step. The second step is to have the negotiations conclude, at the earliest possible date, with agreements which vastly reduce the numbers of nuclear weapons on both sides and which have adequate means of verification—the assurance that both sides are abiding by the terms of the agreement.

These negotiations currently underway will not yield the results we want unless the Soviets have an incentive to reach agreements. This is a major reason why we must continue with our program to restore our defenses. If we were to waver now, if we were to delay our Peacekeeper program, we would be sending a clear signal to Moscow. We would be telling them that they would have no reason to reach agreement with us, to reduce their weapons inventory, since we would have given up unilaterally the system giving us the greatest negotiating leverage.

To summarize briefly, if we have an effective program for modernizing our strategic forces, we will restore our nuclear deterrent that is so essential to maintaining the peace. And only if we show the Soviets that we are committed to restoring and maintaining the strategic balance will be convince them to negotiate genuine arms reductions. There is no other rational solution. There is no other way to guarantee the peace and freedom that all free men seek.

As you well know, Mr. Chairman, we have recently made a very critical decision on a weapon system that we believe will move us far down the two roads to peace I have just discussed—deterrence and arms reduction. Of course, I refer to the President's decision of 22 November 1982 on the Peacekeeper program. I would like to spend the next several minutes describing the specific conditions that led to this decision, after which I will describe that decision and explain how the Peacekeeper missile system contributes so significantly to deterrence and arms control.

For over 20 years the United States has relied on a combination of land-based missiles, sea-based missiles, and bombers to deter Soviet aggression. This strategic Triad, as the combination is called, is sufficiently diverse to insure that U.S. forces will be able, under all conditions, to survive a Soviet first strike and to retaliate effectively. Intercontinental ballistic missiles (ICBM's) offer a unique contribution to the deterrent value of the strategic Triad. They are accurate and responsive, have reliable, real-time communications with command authorities, possess short time-to-target capability, and offer alert rates approaching 100 percent. ICBM's also make it more difficult for the Soviets to plan and execute a successful attack on all three Triad components. In short, land-based ICBM's are essential to the future of deterrence.

Since the late 1960's, the Soviet Union has engaged in a massive and destabilizing strategic arms build-up that threatens the survivability and retaliatory

effectiveness of the Triad. Specifically, the Soviets have developed and deployed numerous large and highly accurate weapons capable of destroying most of the U.S. ICBM force in a first strike, while expending a relatively small proportion of their ICBM force in the process.

The Soviets have also taken steps to reduce the effectiveness of our retaliation. They have hardened their ICBM silos and critical command and control facilities to the point that surviving Minuteman missiles have only limited capabilities against them. This imbalance in such a critcal component of strategic capability seriously undermines the strength of our nuclear deterrence.

The Peacekeeper Missile is designed to correct this imbalance. Unlike the Minuteman, the Peacekeeper has the prompt, hard target capability necessary to retaliate effectively against the most highly valued and increasingly hard Soviet targets. The Peacekeeper will also deny the Soviets the ability to carry out a confident first strike. But let me first describe the Peacekeeper missile.

Peacekeeper is a four-stage ICBM that carries 10 independently targetable nuclear reentry vehicles (RV's). It is 71 feet long, 92 inches in diameter, and weighs approximately 192,000 pounds. It has many advantages over missile systems currently in the U.S. inventory. Peacekeeper will be more accurate, carry out warheads, and have greater operational flexibility than the Minuteman ICBM's. Its greater accuracy, warhead yield, and resistance to in-flight nuclear effects provide the Peacekeeper with the essential hard-target kill capability we now lack. The first three stages of the Peacekeeper use solid propellant and provide the thrust needed to achieve intercontinental range. The fourth stage uses liquid propellant to carry out the maneuvers that properly deploy the RV's. Along with the liquid propellant, the fourth stage carries the computers and electronic equipment that guide and control the missile from the time of launch through the release of its RV's.

The Peacekeeper guidance and control system uses an advanced inertial reference sphere (AIRS) that provides the flight computer with information on missile movement during flight.

Now I would like to describe the basing mode. Following one of the most intense periods of evaluation in recent memory, we have selected closely spaced basing as the most effective deployment mode for Peacekeeper. Traditionally, hardness and spacing decisions for missile deployments have been based on the objective of ensuring that no more than one missile could be destroyed per attacking warhead. This remains true today. Greater hardness allows closer spacing because it is more difficult to damage harder targets with any given warhead.

Titan and early Minuteman launch facilities were conservatively spaced several miles apart because of the relatively low silo hardness levels. As more sophisticated hardness measurements and testing techniques were developed, they were applied in an upgrade program that hardened Minuteman silos. The Defense Nuclear Agency (DNA) reported last year on a series of tests and analyses to validate silo hardness levels. The conclusion of that work was that silo designs of much greater hardness are feasible. This conclusion has been further validated by the demonstration of even greater hardness through further testing in recent months. This breakthrough permitted the development of the closely spaced basing concept. Air Force studies, underway for some time, indicated that severe fratricide effects would occur to attacking weapons as a result of close silo spacing and these would be a greater problem as spacing became smaller and smaller. The Townes Panel, studying Peacekeeper basing alternatives during 1981. recognized this fact and recommended serious consideration of ways to exploit fratricide effects to advantage in Peacekeeper basing. This was done as part of the President's strategic modernization program. With the new evidence in superhard silo design technology, an improved understanding of fratricide effects, and the impetus provided by the President's ICBM modernization program, the CSB concept was defined, analyzed and is now the permanent basing system for Peacekeeper.

CSB involves deploying 100 Peacekeeper missiles in superhard silos at close distances that maximize the phenomenon of fratricide while still far enough apart to prevent one weapon from destroying more than one silo. The major features of the CSB concept are the superhardened silo, close spacing, and the shape of the array.

The superhardened silos, which permit close spacing, also prevent the Soviets from using highly fractionated missiles to attack Peacekeeper. Fractionation refers to the practice of putting many, relatively low yield, warheads on a single

missile. Because the Soviets must use very large warheads to attack superhardened silos, they cannot counter CSB simply by deploying more warheads on existing missiles. Thus, the Soviets must change their arsenal in response to CSB; they cannot rely on the momentum of past developments.

The distance between silos must be small enough to assure fratricide on incoming warheads but great enough to prevent the Soviets from successfully targeting multiple silos with one warhead. A space of 1,800 feet between the silos appears now to be the optimum distance to assure these objectives.

An array is the term given to the CSB deployment field. Different array shapes will create different fratricide problems for the Soviets. The most promising shape, and the one now considered for CSB, is a long, thin column with a north-south orientation. It is about one mile wide and 14 miles long.

In summary, the baseline CSB concept consists of an array of 100 Peacekeeper missiles in 100 silos hardened to very high levels for groundbursts and providing even greater protection from airbursts, and spaced at 1,800 feet. This results in a system deployable on only about 20 square miles of land. We will achieve IOC in late 1986. The program cost is $26.4 billion in fiscal year 1982 dollars, and it is imperative that authorized fiscal year 1983 funds be appropriated in order to meet that IOC.

CSB is effective because the close spacing of the Peacekeeper silos forces attacking weapons to be closely spaced. When early-arriving warheads detonate, the nuclear effects caused by the detonation destroy or deflect off-course those weapons that follow. However, the silos would survive these effects because they are much harder than the Soviet warheads. The Soviets do not now have, nor are they projected to have in the near-term, the capability to avoid these fratricide effects with any confidence.

The major nuclear effects that combine to make an attack on CSB ineffective are both prompt and long term. The prompt nuclear effects include radiation, airblast and the fireball. These effects destroy or degrade the performance of incoming weapons and, in the absence of any ability to detonate their warheads at precisely the same time and with all of them at the right position, prevent the Soviets from executing a simultaneous attack on all CSB silos or a fast-paced attack. While the Soviets might consider a slow-paced attack to avoid these prompt effects, they will find that the long-term effects, such as dust and debris, foreclose their ability to reattack for extended periods of time after an initial wave. During that time, surviving missiles could be launched in retaliation.

The Soviets might attempt to prevent launch This "pindown" strategy, while theoretically possible, would have to be employed continuously and flawlessly during highly stressful wartime conditions. Thus, the Soviets could not be confident of preventing launch of surviving Peacekeeper missiles. Also, pindown attacks would consume Soviet strategic forces without destroying a single missile.

Fratricide, then, when combined with superhard silos, puts a limit on the size and pace of an effective attack on the silo array and reduces the usefulness of the large numbers of warheads the Soviets possess. Since the Soviets are unable to generate a high confidence attack on Peacekeeper in CSB, they will see no advantage in initiating a conflict, and thus, deterrence will be enhanced.

The Soviets may choose to seek improvements to their ICBM forces in order to threaten Peacekeeper in CSB. In the near-term through the early 1990's, they could increase the yield of their reentry vehicles in an attempt to overcome the hardness level of CSB silos, but the larger yield would significantly increase the fratricide effects. Therefore the CSB deployment of 100 Peacekeeper missiles in 100 capsules will remain in a strong and viable deterrent against the near-term threat.

For the longer term, mid to late-1990's, the Soviets could deploy low yield, highly accurate, earth-penetrating weapons that could threaten the hard CSB silos and minimize or avoid fratricide. Even if they are successful in doing so, we would have a number of options to enhance CSB and maintain its viability. Our options include straightforward, relatively inexpensive countermeasure, concealment in additional silos, ballistic missile defense, or deep basing. In all cases, Soviet development programs can be countered effectively by U.S. responses. A crucial point is that these responses will also be quickly deployable because of our readiness that will reult from our R&D programs. This feature will allow us to keep several years ahead of potential Soviet responses—a factor that

should discourage any Soviet attempt to defeat CSB through expensive and risky development programs and, instead, give the Soviets strong reason to negotiate.

I have already mentioned how Peacekeeper in CSB will enhance deterrence. That outcome, by itself, is sufficient to justify our decision. However, there is still another very significant outcome of this decision—it also enhances prospects for significant arms reductions. It does this by providing the essential incentive for the Soviets to engage in meaningful negotiations leading to a workable strategic arms reduction agreement. Based both on years of observation of past arms control initiatives and on commonsense, I am convinced that we must negotiate from a position of strength or the Soviets will dictate rather than negotiate. I am equally conviced that this Peacekeeper missile system will provide the essential incentive to negotiate agreements that will provide greater stability and promises of peace for us all.

Chairman TOWER: Thank you, Secretary Weinberger.

General Vessey?

STATEMENT OF GEN. JOHN W. VESSEY, JR., USA, CHAIRMAN OF THE JOINT CHIEFS OF STAFF

General VESSEY. Mr. Chairman, I have submitted a statement for the record. I will summarize it very briefly because many of my points have already been covered by the Secretary.

Chairman TOWER. Fine.

General VESSEY. As the Secretary pointed out, the Soviets have built a very large military force which threatens the United States and our allies. That force includes 180 ground force divisions and over 7,000 combat aircraft and thousands of nuclear warheads on both theater nuclear weapons and on strategic nuclear weapons.

Our policy is one of deterrence. We don't want a war, but we want to prevent a war by making it very clear, although paradoxical as it may seem, that we have the capability of fighting a war with the Soviets and denying them there war aims.

The Soviets have built the forces, both the conventional forces and the nuclear forces, to achieve their war aims. We need the forces to counter that threat. All of our forces are involved in deterrence, our conventional forces, our theater nuclear forces and our strategic nuclear forces.

As the Secretary has said, we have for years maintained strategic nuclear forces in a Triad, the intercontinental ballistic missiles, the bomber force, and the submarine—launched ballistic missiles.

Our strategic analyses continue to confirm that maintenance of modern effective forces in each leg of the triad complicates greatly the Soviet achievement of their war aims and therefore contributes to deterrence.

As you know, we have programs underway to modernize all three legs of the Triad and the JCS support that modernization of all three legs of the Triad.

The issue we are addressing today is the intercontinental ballistic missile. In my statement I point out some differences between the target base that we present the Soviets and the one they present to us.

Modernization of their ballistic missile force and hardening of the command and control facilities as well as the missile silos require a hard target kill capability. The Peacekeeper, or MX, missile provides that new hard target kill capability.

I want to say that the Joint Chiefs of Staff firmly support the President's arms control initiative for significant reductions in nuclear arms. But in their support for that arms control initiative they recognize the importance of modernizing all three legs of the Triad as we go to significantly reduced levels of nuclear weapons.

The Joint Chiefs were unanimous in their recognition of the need and support for fielding of the MX or Peacekeeper. There were differing views within the JCS on the basing scheme for the missile. Those views were presented to the Secretary of Defense and the President before the decision was made and the JCS support the President in the implementation of the decision that he has made.

That summarizes my statement, Mr. Chairman.

[The prepared statement of Gen. John W. Vessey, Jr., follows:]

PREPARED STATEMENT BY GEN. JOHN W. VESSEY, JR., USA, CHAIRMAN, JOINT CHIEFS OF STAFF

Mr. Chairman and members of the committee. Thank you for inviting me to testify about the very important matter you are addressing.

You have heard Secretary Weinberger's description of the Peacekeeper missile and his explanation of the basing mode and the reasons for choosing it. The Secretary also discussed the missile's relationship to deterrence and to the U.S. arms control policies. I will try to avoid repeating what the Secretary has told you and will amplify the military aspects of the new land-based ICBM. Nevertheless, because a key aspect of our strategy is deterrence and because arms control negotiations are an important part of our security policy, some of my points will overlap with those of Secretary Weinberger.

In his acceptance speech on being elevated to the top Communist Party position last month, Mr. Andropov said, "We well know that peace cannot be achieved by begging from the imperialists. It can be defended only by relying on the invincible might of the Soviet Armed Forces." It is not Mr. Andropov's word's that need be our primary concern; it is the fact that his country has built a massive military machine, which to us seems to be far greater than required for any legitimate defense needs. That military machine, with over 180 army divisions supported by about 7,000 combat aircraft and backed by thousands of theater nuclear warheads and thousands more for strategic nuclear weapons, threatens our allies and us. Hence the need for us to maintain forces to deter the use of those Soviet forces, if we want peace. Certainly all of our strengths—moral, social, political, economic and military—contribute to our deterrent strength. Today we are addressing military strength and its contribution to deterring war.

From the military point of view, deterrence results from a great deal of uncertainty in the minds of the Soviets that their war aims can be achieved. The entire range of U.S. and allied forces contribute to this deterrence. In today's world, strategic nuclear forces alone will not provide deterrence, but the strategic nuclear forces are an important part of our deterrent force. For all who may read the record of these hearings, I want to say as clearly as I can that the United States does not want a war, any kind of war, and especially a nuclear war. We want to prevent war. Paradoxically, the success of our deterrent posture results from clear perception on the part of the Soviets that the United States is capable—however unwilling—of engaging in the nuclear conflict we seek to deter. It is an understanding of the war fighting capability of the forces that will help lead us to the right mix of forces to prevent a war.

During the Brezhnev years, the Soviets went to great efforts to modernize their strategic and theater nuclear forces. They have fielded and continue to field new, accurate ballistic missile systems with multiple, independently targetable reentry vehicles, the so-called MIRV's. The United States did not undertake a comparable modernization program.

In order to judge what is necessary to deny the Soviets their war aims and hence affect deterrence, it is useful to consider what those aims might be. We know a good deal about Soviet war aims, they are:

To insure continuity of the Communist Party of the Soviet Union control over the Soviet Government, military, police and internal security organs and the population.

To provide continuity of functioning of the Soviet politico-military economic system to prosecute the war to a victorious conclusion, to repair immediate damage and organize recovery.

To defeat NATO forces, occupy NATO countries as intact as possible and to use Europe's economic assets to assist Soviet recovery.

To neutralize the United States and the PRC by destroying their military forces and preventing the reconstitution of U.S. and PRC military forces.

To minimize losses to Soviet leadership, scientific-technical elites and other essential personnel, to the unessential population, and to the economy.

To dominate the post war world in which "socialism" (read Soviet style communism) will have replaced "imperialism" (read Western democracy) as the basic politico-economic system in all nations.

The Soviets have built the forces, both conventional and nuclear, to pursue their war aims. I find it hard to believe that the Soviets or anyone can want a nuclear war; certainly we do not. Yet, the Soviets have, in fact, allocated vast resources to build the forces and harden the command structures to attain their war aims in a nuclear war. Therefore, the United States and its allies need to have the forces and capabilities to prevent the Soviets from achieving those war aims. When it is clear that we do, deterrence exists and the probability of war is greatly reduced.

Today we are concentrating on strategic nuclear forces. As the members of this Committee know well, the United States has for years relied on the so-called Triad of strategic nuclear forces, bombers, submarine launched ballistic missiles, and land-based intercontinental ballistic missiles. Each leg of the Triad has its own strengths and weaknesses, unique capabilities and vulnerabilities. Our strategic analyses through the years have continued to confirm that maintenance of modern effective forces in each log of the Triad complicates greatly the Soviet chances for achieving war aims through a nuclear strike on our forces, gives us the flexible sort of forces we would need to respond to any attack and thus contributes greatly to deterrence of war. As the Committee knows, we have programs to modernize all three legs of the Triad. Our B–52 bombers are 25 years old, on the average; modern technology permits us to build far more effective bombers with capability to penetrate Soviet air defenses well into the late 1990's in the case of the B–1 and well beyond 2000 in the case of ATB. The first of the new Trident submarines has just become operational. The Trident itself is a much improved submarine with additional missile capacity. A very important future addition to the Trident is the D–5 missile now under development. The D–5 will have the accuracy to give the submarine missile forces the ability to attack hard targets. At the same time we are moving to modernize our strategic forces, we are undertaking important modernization of our strategic command, control and communications systems. The modernization will enable us to provide better attack detection and insure the National Command Authorities have necessary communication with the forces.

A critical element of the modernization program is the new ICBM, the MX or Peacekeeper. The accuracy improvements and its ability to carry ten warheads give us the ability to attack hard targets quickly, the so-called time-urgent hard target kill capability.

The Soviets also maintain a Triad of forces, but theirs is considerably different from ours. Where we have only about one-third of our missile warheads in ICBMs. The Soviets have about two-thirds of theirs in ICBMs. As I said earlier, in recent years the Soviets have modernized their ICBM force. The over 300 SS–18 missiles with up to 10 accurate warheads each and 300 SS–19s with six accurate warheads, all in super-hard silos, are the heart of that modernization effort. The Soviet ICBM force can attack he fixed targets of the United States, with assurance of high levels of damage on those targets, and can at the same time maintain a large reserve of weapons for follow-on attacks.

At this time it's worth saying a little about the targets we and the Soviets present to each other. If I put myself in the shoes of the Soviet planner attacking the fixed military targets in the United States, I see a target base that is less than half the size, in numbers, and only about half as hard in terms of protection as the target base the Soviets present to us. The Soviet planner also sees a lot of targets that are not fixed, our alerted bomber force and our deployed submarines, and, of course, we see a somewhat different mix and a larger set of non-fixed targets in the USSR. Simply said, from the war planner's point of view the United States is an easier target than the USSR.

The hardened fixed targets in the Soviet target base, the missile silos with reserve missiles and the hardened command and control facilities which would

play a key role in follow-on attacks, are the targets we want to be able to attack quickly—the time-urgent, hard targets. The accuracy and warhead combination of our present Minuteman missile force does not give us high confidence of destroying those targets rapidly. The vulnerability of the Minuteman force to a first strike adds to our operational problems. Therein lies the need for the Peacekeeper with its improved accuracy and increased warhead carrying capacity. It will give us the capability of attacking those hard targets promptly with high confidence of inflicting damage sufficient to contribute to great uncertainty in the minds of the Soviets that their war aims can be achieved.

The planned closely spaced basing for the Peacekeeper adds greatly to the survivability of the missile. It complicates the Soviet attack problem and further creates more uncertainty that war aims can be achieved and thus makes a further substantial contribution to extended deterrence.

The current Soviet systems are not designed to attack CSB. While the Soviets could seek to make CSB vulnerable in the future it would require them to redirect their current efforts at great cost in both time and resources. We are confident we would detect such efforts on their part and, if needed, make necessary improvements in survivability. The net result will be a continuing high degree of uncertainty on the part of the Soviets that they can successfully attack the system.

In the context of current strategic arms control negotiations, the modernization of the ICBM leg of the Triad in CSB will provide an important incentive for serious negotiation. We do not enhance prospects for arms control by failing to correct existing vulnerabilities or failing to modernize our strategic forces. As we seek significant reductions in strategic armaments, modernization will be an essential element in preserving our deterrent at reduced force levels.

The Joint Chiefs of Staff firmly support the President's arms control initiative for substantial reductions in strategic nuclear arms. The JCS support for the reductions recognized that, with both sides at lower levels of forces, any disparity in the quality and capabilities of the forces would be even more pronounced than at today's levels. Therefore their support for the reductions was with the understanding that all three legs of the Triad would be modernized.

The JCS were unanimous in their recognition of the need and in their support for fielding the MX or Peacekeeper missile system. There were differing views on the basing scheme for the missile and those differing views were all presented to the Secretary of Defense and the President before the decision was made. The JCS support the President in the implementation of the decision he has made.

Chairman TOWER. Thank you, General.

Dr. Keyworth?

STATEMENT OF DR. GEORGE A. KEYWORTH II, SCIENCE ADVISER TO THE PRESIDENT AND DIRECTOR, OFFICE OF SCIENCE AND TECHNOLOGY POLICY, EXECUTIVE OFFICE OF THE PRESIDENT

Dr. KEYWORTH. Mr. Chairman, I would like to read my statement. It is not long, but it directly addresses many of the issues that have been least well understood, as I believe was evidenced in yesterday's House action.

Since the President made his announcement of the closely spaced basing mode for the MX missile, public debate has been largely dominated by what I would have to describe as inadequate information about the technical issues involved.

Consequently, even the large amount of public discussion has failed to thoroughly air some important aspects of this system. The result is that the American people have not yet had adequate opportunity to judge the merits of the actions proposed. Even worse, my grave concern is that the Nation may not recognize this unique opportunity to achieve the reduction in nuclear tensions that we all deeply want.

As Science Adviser to President Reagan, and as Director of the White House Science Office, I have been involved in the questions of

MX development and its possible basing modes for the past year and a half.

Scientists in my office as well as expert non-Government consultants have been working intensively on the technical details of MX basing. Our purpose was to provide independent analyses and recommendations to the President on the technical aspects of this system.

The recommendation I made to him took into account experimental and test results occurring right up until the time of his announcement on November 22. The plan he announced is, in my opinion, not only the best basing concept for MX, but is one that assures a survival land-based deterrent.

Let me take up those two key issues—the technical considerations of the basing mode and the strategic need for this survivable system.

First, the closely spaced basing—or CSB—scheme does indeed work. It takes advantage of two closely intertwined concepts: Super-hardening of silos, and "fratricide."

The level of super-hardening required must assure that the largest Soviet weapon that can be delivered feasibly is unable to destroy more than a single silo. The highest-yield warhead ever deployed on the largest Soviet missile is in the 30-megaton class.

We don't need any technical breakthroughs to achieve super-hardening against such a threat, or even against reasonable future increases. In fact, super-hardening will use reinforced-concrete engineering techniques and represents a less difficult challenge than is involved in many of today's commercial construction projects.

Moreover, recent experiments have confirmed our ability to build these superhard solos as proposed.

Superhardened solos, of course, make it possible to take defensive advantage of fratricide. With CSB it is impossible, with present technology or with any foreseen in the balance of this century, for ballistic missiles to successfully attack the whole MX force at once.

If an enemy attempted to send a fleet of reentry vehicles to hit all 100 MX silos, the first exploding warhead would destroy or cripple the companion incoming warheads.

Four different phenomena create this destructive effect. First is the intense radiation of gamma rays and neutrons. This radiation travels at or nearly at the speed of light and will, within a few millionths of a second, reach and disable nearby warheads.

Second is the nuclear blast wave which, for several seconds, will destroy neighboring warheads.

Third is the fireball, which may last up to a minute and continues to prevent incoming warheads from detonating effectively.

Finally, the explosion creates a tremendous cloud of debris extending to great altitudes, and it remains for hours. Because ballistic missile warheads arrive at such high velocities, even small particles in the air will cause tremendous damage to an incoming warhead. However, the same dust cloud would not prevent the launch of an MX from its silo, because initial launch velocities are very much lower than for incoming warheads.

These four effects of nuclear explosions are well known, and the fratricide phenomena have been well established during many years of experiments, including those conducted at the Nevada test site using underground nuclear detonations. As a nuclear physicist, and one who

directed experiments at the Nevada test site, I am quite familiar with these results.

We have read in the press of a number of suggestions of ways to attack CSB. These range from a "slow walk" of high-yield warheads to simultaneous detonation of "soft landers" to Earth-penetrating warheads.

Mr. Chairman, all of the suggested attacks are either ineffective, readily countered, or require an unreasonable commitment of Soviet forces.

For example, the often-mentioned threat of "Earth penetrators" can be countered simply by an appropriately placed layer of rocks.

It is true that one could equip warheads with sophisticated clocks to permit them to explode within those critical few millionths of a second required to avoid fratricide. But it is virtually impossible to launch a fleet of ICBM's and cause them to arrive—after a ballistic flight of many thousands of miles—at the target with such precision.

And remember, those that impact the ground before the clock mechanism triggers them cannot be permitted to explode—if they did, we would be right back to the fratricide deterrent—and those that explode short of the target won't damage the MX.

"Soft-landers," which would in principle land and await simultaneous detonation, are no answer either. They can be destroyed as they slowly descend; existing Phalanx antiaircraft guns could provide adequate protection.

Some have even claimed that a single 27-megaton warhead delivered by an SS–18 could destroy the entire CSB array. The truth is that even an attack by the entire Soviet fleet of 308 SS–18's—using the slow-walk and pindown strategies that take many hours to go through—would still leave enough MX's for a deadly retaliatory blow.

We have looked in great detail at these and many other possible modes of attacking CSB. Our conclusion is that the plan to deploy 100 MX missiles in super-hardened silos will assure survivability of the MX deterrent force until at least the late 1990's.

Moreover, we could construct an additional 100 to 200 silos as deception if the Soviets should significantly expand their existing fleet of ICBM's, and we could deploy a rather rudimentary ballistic missile defense system to counter possible sophisticated and expensive future Soviet developments such as super-accurate maneuvering reentry vehicles.

So, in my mind, Mr. Chairman, there is no question that we can deploy the MX in CSB and be assured of a survivable ICBM force.

This brings us to the second issue: Why do we need a survivable ICBM, especially when the President is actively trying to negotiate major reductions in United States and Soviet strategic arms?

Never has the United States had a greater need for the insured deterrent of a Triad of land, air, and sea-based strategic systems. It has been argued that U.S. technological superiority in aircraft and submarines would be deterrent enough against anyone so foolish as to try a first-strike.

But remember that there are some critical differences between ICBM's and the other two arms of our deterrent Triad. Both submarines and bombers are slow-response mechanisms and rely on being able to remain hidden for long periods of time.

Over the 25-year or more lifetimes of these systems, we know that many advances in electronics will occur and conceivably may make possible greatly improved detection of extremely small radar and acoustic signals.

After all, we have seen remarkable developments in both military and commercial microelectronics in just the past 5 years, and these will continue. Though the kinds of breakthroughs in signal processing that might compromise our sea and air arms of the Triad are still distant, we have to recognize that our submarines or aircraft could be threatened sometime in the future. Where would that leave us? With increasing reliance, once again, on the land-based arm of the Triad.

But there is today an even greater need for a survivable land-based deterrent—and that is to permit us to make serious progress in arms reductions. Right now the Soviet Union can effectively destroy our Minuteman force in a first strike, using only 25 percent of their ICBM fleet.

I am sure that suits them just fine. It will continue to suit them if we don't go ahead with MX, because we would then be relinquishing the land-based deterrent upon which the Free World has so long depended.

The Soviets, free of that concern, would then concentrate their technological development on those means to disable the other two arms of the Triad. Would they be willing to respond to President Reagan's START proposal under those conditions? I hardly think so.

History teaches us that defense is the principal responsibility of any government. President Reagan has accepted this responsibility, yet at the same time he has pursued the first major reduction in strategic arms since the advent of the nuclear era. His "zero option" and START proposals go beyond limitations in strategic arms—which the nuclear freeze and SALT accords adopt.

Peacekeeper is not a war-fighting weapon. It is a war-preventing weapon. Because it takes away the option of a preemptive first strike by an enemy, it makes nuclear war much less likely. One even hopes it makes nuclear war what it truly is—unthinkable.

At the same time, it would be foolish to believe we could give up our strategic forces, as has been suggested, and replace them solely with defensive weapons. While we could readily agree that a transition to pure defense would be desirable—and maybe someday in the future even conceivable—no technology exists today to make it possible.

We have no realistic option but to retain a strong nuclear deterrent while strengthening our conventional force capability. To relinquish that nuclear deterrent, or even to compromise it by abandoning the Triad, is a step toward unilateral disarmament—a step hardly justified by events in Angola, Afghanistan, and Poland.

After a decade of searching for a way to insure the survivability of land-based ICBM's, we have developed the MX–CSB. It is an important contribution to peace, because it will deter the Soviet Union from exploiting their strategic leverage and will promote success at the START negotiations. The Peacekeeper is aptly named.

Mr. Chairman, this concludes my formal statement. I would welcome any questions from you or members of the committee.

Chairman TOWER. Thank you, Dr. Keyworth.

Ambassador Rowny. Ambassador Rowny is our START negotiator with long experience in negotiating with the Russians and he speaks fluent Russian, himself. He will discuss the arms limitation implications.

Mr. Ambassador?

STATEMENT OF AMBASSADOR EDWARD L. ROWNY, CHAIRMAN, U.S. START DELEGATION

Ambassador ROWNY. Thank you, Mr. Chairman, Senator Stennis, and members of the Committee. It is a pleasure to be back here again to talk with this distinguished committee.

I should like also not to read my statement, but submit it for the record, Mr. Chairman. I should like simply to summarize a few of its key points, if I may.

Chairman TOWER. It will be entered in full in the record.

Ambassador ROWNY. Mr. Chairman, the greatest risk of the nuclear war today is caused by the large number of weapons and especially the large imbalance in ICBM's—intercontinental ballistic missiles. It is the ICBM's which are the most destabilizing of the weapons. They have the combination of yield, accuracy, short flight times, and constant availability to make them the most threatening weapons. Moreover, they are the most vulnerable of the weapons today.

During SALT II, while we built no ICBM's, no new ICBM's, the Soviets built four new types of ICBM's. Although we made some improvements in the yield of our Minuteman warheads, the Soviets have built up much more. They have built up to the point where they have three times the number of ICBM warheads and at least four times the throw weight, which is the strategic capability of these ICBM warheads, and moreover, as the Secretary has said, they have caught up to us in accuracy.

As the Secretary also said, Marshall Ustinov said that the Soviets, in response to our MX, will build a new weapon equivalent to it if we deploy the MX. The Soviets already have built up over 600 of such weapons and have them in their inventory today.

These 600 weapons are roughly comparable in some respects, and their potential is superior, to the MX. Besides, on October 26, the Soviets tested a new so-called light missile, which is the same category in which the MX falls.

Now the President's proposal, the one I am negotiating in Geneva—and I just left there Saturday, having finished the second round of now 5 months of intense negotiations with the Soviets—is based on significant cuts, deep cuts. That proposal was formulated on the assumption that we would modernize our ICBM force and that we would put it in a survivable mode.

Now if we don't get the MX, which is clearly a measured response to this huge Soviet threat, it is my opinion we will have to reevaluate our proposal and see if we can reduce as much as we are now proposing to reduce. In the over-10 years now that I have been negotiating with the Soviets, I find them rather tough-minded people. They don't give up something for nothing.

I recall several years ago when Senator Tower was visiting us, and it was the day the B–1 was given up, and Senator Tower said to the

chief negotiator on the other side, "Mr. Schuken", then the acting head, "we have given up the B–1. Now what are you going to give up?"

Mr. Schuken said, "Senator Tower, you should know we Soviets are neither pacifists nor philanthropists." I think that was exactly their attitude then and is today. The Soviets, in short, need incentives to negotiate. The fact that they are in Geneva today shows that they believe that they have such an incentive.

Now I accepted this job of negotiating a new agreement because I am a believer in the possibilities of arms control. I believe that an agreement which takes care of our security needs is possible to achieve, but it must be based on our security requirements.

Therefore, MX to me is not a bargaining chip. I will repeat that: It is not a bargaining chip. I am convinced that we need it for our security. However, it is a measured response to the threat and, very importantly, it provides incentive for the Soviets to negotiate.

In short, without MX in a survivable basing mode, my chances of getting an acceptable agreement, one which takes care of our security, one which provides for deterrence, one which allows for deep cuts, one which enhances strategic arms stability, all of these possibilities are greatly undermined if we don't field this Peacekeeper system.

That summarizes my remarks, Mr. Chairman.

[The prepared statement of Ambassador Edward L. Rowny follows:]

PREPARED STATEMENT OF AMBASSADOR EDWARD L. ROWNY, CHAIRMAN, U.S. START DELEGATION

I

Mr. Chairman, Thank you for the opportunity to testify before this Committee today on the MX-Peacekeeper missile and its deployment in the Closely Spaced Basing (CSB) mode. I can assure you that the President's decision to deploy MX in the CSB mode was taken after thorough consideration of all relevant national security and arms control issues. Among these issues were the relationship of MX/CSB deployment to the ongoing START negotiations and its consistency with our current policy of not undercutting existing agreements. On the basis of our analysis of these issues, we have concluded that the plans to deploy MX in the CSB configuration are not only consistent with US policies in the field of arms control—they are indeed a very important element for the success of those policies. Let me address the principal arms control implications of the President's MX decision.

II

President Reagan has stated that the objectives of our strategic modernization programs and arms control agreements are to enhance deterrence by maintaining a nuclear capability sufficient to deter conflict, and to create a stable military balance at substantially reduced and equal levels of nuclear weapons. MX/CSB is crucial to attaining those objectives, and is fully consistent with, and complementary to, our basic approach in the START negotiations.

Let me summarize the essential elements of the decision as they relate to START and nuclear arms control. The CSB system will make a critical contribution to strategic stability by making U.S. ICBM forces less vulnerable to a Soviet first strike, and it will do so in a manner that contributes to our other important arms control objectives. This basing system is fully consistent with current U.S. policy not to undercut existing agreements and with our START proposal. MX in CSB is not a bargaining chip for START. Rather it constitutes an essential element of the President's strategic modernization program. MX in CSB should provide the incentive necessary to induce the Soviets to negotiate substantial reductions to equal levels. I would now like to expand on these summary thoughts.

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Deployment of the MX missile is an urgent and necessary response to the massive Soviet strategic buildup. Over the past ten years the Soviets have deployed a new generation of ICBMs whose massive power and increasing accuracy has given them the capability to destroy U.S. fixed, land-based ICBMs. The United States, which had voluntarily stopped at 1,000 Minutemen, sought to avert this threat by showing restraint during more than 10 years of arms control negotiations. Unfortunately, the Soviet Union chose to ignore these U.S. restraints and chose to deploy over 650 of the counterforce-capable SS–18 and SS–19 ICBMs while the negotiations were in progress. Deployment of 100 MX missiles is a measured U.S. response to these regrettable Soviet actions.

The most recent manifestation of this ongoing effort is the initiation of a flight test program of yet another new type of Soviet ICBM. While the Soviets severely criticize us for a missile yet to be tested, not only do they possess 650 missiles comparable to the MX, but the Soviets have already initiated the flight test program of still another comparable system.

Against this background, Marshall Ustinov's statement on December 6 regarding inconsistency with existing agreements can only be regarded as a deliberate distortion of the historical record. My long experience at negotiating with the Soviets tells me that they fully understand what MX/CSB is all about and that it is consistent with our policy not to undercut existing strategic arms agreements. Why do I bring this up? It is because Soviet leaders are tough and competitive. Ustinov's statement is clearly intended to serve as justification for the continuing Soviet efforts to enhance their own ICBM force and is a crude attempt to influence the deliberations of the U.S. Congress.

Some have claimed that the MX is simply a bargaining chip for the START negotiations that can be traded away in return for appropriate Soviet concessions. This is emphatically not the case. The President's strategic modernization program is based on military requirements, not the notion of creating bargaining chips. The basis of our military policy and arms control proposals is to reestablish stability. If the United States were not prepared to take the steps necessary to restore the military balance, the Soviet Union would have little motivation to negotiate an equitable agreement at reduced levels. It is in this sense that MX deployment will give the Soviets strong incentives to accept the type of reductions we are urging in START. Strong congressional support for MX will clearly demonstrate our resolve to maintain a credible deterrent, and show our determination to maintain our strength, an element essential to our negotiating position.

It is my judgment, as the chief U.S. negotiator on strategic offensive arms that a decision not to deploy the MX/CSB would not only undercut my negotiating leverage but would require a reassessment of our START proposal. We were able to make a proposal which called for substantial reductions because that proposal was based on the assumption that MX in a survivable basing mode would be part of our force structure. Our proposal, by calling for deep reductions, greatly reduces the numbers of nuclear weapons and thereby reduces the risk of nuclear war.

Furthermore, lack of survivability is militarily destabilizing. Deployment of MX in CSB will increase ICBM survivability, a goal consistent with the great emphasis we have placed on crisis stability in our approach to arms control.

In sum, a survivable MX is a key ingredient in, and consistent with, our efforts in START to achieve a more stable military balance at substantially reduced and equal force levels.

III

The MX/CSB system conforms fully with the administration's policy of not undercutting existing arms control agreements. Under this policy, we plan to take no actions that are inconsistent with the basic objectives and purposes of previous arms control agreements, or that prejudice the achievement of a new, more effective agreement to replace them. MX/CSB meets these tests.

MX and its planned deployment would be fully consistent with SALT II's quantitative and qualitative missile limits. The relevant numerical limits which would affect MX are the fractionation limit of 10 warheads on a new type of ICBM, and the limits of 1,200 and 820 on launchers of MIRVed ballistic missiles and MIRVed ICBMs respectively. The MX missile will not be tested or deployed with more than 10 warheads. Nor would the deployment of MX prevent us from meeting the MIRV limits of SALT II since older and less capable systems can be retired to ensure that we do not exceed the MIRV ceilings. MX would also be consistent with the qualitative constraints on "new types" of ICBMs in SALT II.

Considerable attention has been given to the question of whether MX/CSB would be in conflict with the specific provision in the SALT I Interim Agreement and the SALT II Treaty that prohibits the construction of additional fixed land-based ICBM launchers. After carefully reviewing the design features of MX/CSB, we have concluded that this system would not be considered a fixed launcher under SALT, and consequently is not inconsistent with SALT's ban on additional fixed ICBM launchers.

MX/CSB is a unique ICBM deployment design. Unlike fixed ICBM systems, the actual missile launcher will be a canister that contains the missile and all the essential launch equipment. Since the launch equipment will not be an integral part of the silo, the silo cannot be considered the "launcher." The silo serves only to support the canister and provide the protection necessary to survive a Soviet attack. These characteristics set MX/CSB apart from fixed ICBM launchers. In contrast, the Minuteman, for instance, has a different design philosophy. In Minuteman basing, the essential launch equipment is an integral part of the silo's construction. Hence the Minuteman silo is the launcher and is clearly fixed.

Mr. Chairman, that concludes my prepared statement. I will be happy to respond to any questions you or members of the committee may have.

Chairman TOWER. Thank you, General Rowny.

Mr. Secretary, it is my understanding that General Skantze will present a briefing at this point, is that correct?

Secretary WEINBERGER. He has a briefing available at any time that the committee would like to have it. If you want to go right into the questions now, we can do that and have the briefing at a later time. Whatever your pleasure is.

Chairman TOWER. How long is that briefing, General Skantze?

General SKANTZE. About 30 minutes, Mr. Chairman.

Chairman TOWER. I think we should have the briefing before we go to questions if the committee is agreeable.

What is the pleasure of the committee?

Senator QUAYLE. Mr. Chairman, being on the low end of the totem pole and it will be an hour before they get to me, I would hope we might forego the briefing for now and go to questions.

Chairman TOWER. It seems to be the disposition of the committee to go ahead and proceed with questions now. I would suggest there are some questions that General Skantze might be able to answer and therefore if he could take a seat at the table, I think we should have him available to comment on any questions.

I am sorry that we have the time constraints. I think the briefing is essential. I hope that my colleagues will take the opportunity to avail themselves of it. Perhaps after the first round of questions we can have the briefing at that point.

Let us proceed to questions.

Mr. Secretary, can we have your assurance that your office will render every appropriate assistance to the committee in trying to develop a full and balanced record on this MX program?

Secretary WEINBERGER. You certainly do, yes.

Chairman TOWER. Mr. Secretary, will you provide the committee with the complete text of the reports prepared in the course of the MX basing mode selection by panels headed by Dr. Charles Townes and by Dr. William Nierenberg?

Secretary WEINBERGER. Yes, sir. Those are classified now. They will be provided under the normal rules by which classified documents are supplied. Dr. Nierenberg did not have a separate report to me. He was a subpanel director to Charlie Townes. He did, however write a letter to me on the subject which I will be glad to submit for the record.

Chairman TOWER. We understand that. Of course we will honor the classification.

We are aware that a private letter was written to you by Dr. Charles Townes following completion of the second panel's study of basing concepts in which he expressed some reservations about several aspects of the system.

We would like you to provide the committee with a copy of it and second, your comments on the contents of the letter, to put the reservations into context and the degree to which Dr. Townes' criticisms were taken into account in your own analysis and decision to recommend the closely spaced basing system.

Secretary WEINBERGER. I would want to talk with Dr. Townes—that was a private letter—and see what his views are. It is not quite accurate to describe them as criticisms. They were points he was making at my request.

Chairman TOWER. I believe I referred to them as some reservations about some aspects.

Secretary WEINBERGER. I will talk to him and see if he has any problems with a personal letter of that kind.

Chairman TOWER. I would hope that it would be forthcoming. It has already been in fairly wide circulation and I think the committee should have access to it.

[The information follows:]

TOWNES' DOCUMENTATION

A copy of the formal report of the Defense Science Board Task Force, chaired by Dr. Townes, is being forwarded to you separately due to its Secret classification. That report reflects consideration of many inputs which we regard as working papers not appropriate for release outside the Department. The study by Dr. Nierenberg and his panel is a primary example because it was commissioned for that express purpose and was reviewed by all Task Force members. Dr. Nierenberg has, however, written a letter outlining his views on the MX which we are including in our submittal for the record.

UNIVERSITY OF CALIFORNIA,
San Diego, December 6, 1982.

Hon. CASPAR W. WEINBERGER,
Secretary of Defense,
The Pentagon, Washington, D.C.

DEAR MR. SECRETARY: I have followed with great interest the additional work which has been performed on the MX Closely Spaced Basing concept since the "Red Team" which I chaired completed its work and reported to Professor Charlie Townes' Defense Science Board task force in mid-August. Our Red Team was asked to identify and explore possible Soviet attack tactics against CSB using existing and potential weapon systems. As you are well aware, we identified a number of them, although I would say that no single one was so promising it would indicate *prima facie* that a viable CSB system was out of the question.

I know that our results were considered seriously by the Air Force in its continued refinement of the CSB concept, by the Intelligence Community in its formal evaluation of the feasibility and desirability of these possible Soviet threats from the Soviet viewpoint, and of course by the DSB task force. In the end, you and the President had to make the most difficult judgments of all—whether this system, though imperfect as are all other new concepts in this dangerous age, was good enough to be a valuable addition to our national security.

I know that you considered this very complex issue most carefully, and I am prepared to support the decision you have made on basing MX. I wish you the very best in your continued leadership of our national defense effort.

Sincerely,

WILLIAM A. NIERENBERG.

Chairman TOWER. Mr. Secretary, as you know, the former Secretary of Defense, Harold Brown, indicated in a recent press interview that the incorporation of deceptive basing of MX into the closely spaced basing system was essential if the concept was to provide an appreciable measure of survivability.

Now, would you provide the committee with your assessment of the additional marginal survivability of a baseline dense pack deployment by incorporation of deception and how it compares with the BMD option?

Secretary WEINBERGER. I will be glad to do that.

Chairman TOWER. And any other growth options that will contribute to survivability?

Secretary WEINBERGER. There are a number of deception techniques. Dr. Brown proposed a massive scheme of deception. In any event I will reserve my comment on it for the transmission you requested. We will do so with respect to one of the other options, one of which is specifically very attractive if the Soviets should take the actions that they are able to take to counter the MX basing and that is the ballistic missile defense and some of the Phalanx options Dr. Keyworth referred to.

Chairman TOWER. If we could have an evaluation of each one of those options and how you would prioritize them.

Secretary WEINBERGER. Yes.

[The information follows:]

Yes, I would divide our response options into two categories: countermeasures and growth options. Countermeasures are generally simple, relatively inexpensive, rapidly deployable, and effective against the capabilities that characterize specific Soviet response options.

In terms of passive countermeasures, our weapons-testing laboratories have found that earth penetrating weapons would be unable to penetrate high density rock layers very similar to those used by the Army Corps of Engineers to construct levees and break waters.

We also have the option to build in additional silo hardness which can defeat Soviet attempts to detonate their warheads with extreme precision.

Some examples of active countermeasures would be 20 mm or 30 mm radar guided Gatling guns, similar to versions of the system presently being deployed on Navy frigates. These guns would be very effective against any Soviet threat which relied upon relatively low terminal speeds such as hard or soft landers, or a Soviet redeployment of the very blunt (and therefore very slow 20–25MT weapon they once had.

Some of the work we have done on self-contained, sensor activated standoff munitions could also be extremely effective against attempted soft landings.

All of these countermeasure options are available, can be deployed in 1–3 years from a decision, and are in the $1–3 B (fiscal year 1982 dollar) range.

Growth options on the other hand address a broader range of potential Soviet threat responses, take correspondingly longer to deploy, are somewhat more expensive, and would most likely not be required until many years after IOC. Examples would be deceptive growth, actual expansion, or BMD. Our foremost, quickest, and least expensive option would be deceptive growth to a total of 200–300 silos for 100 Peacekeeper missiles.

Contrary to some criticism that we have not considered deception, we consider deceptive growth as very powerful. I believe any deceptive option, however, needs the superhardness and close spacing of CSB to make it viable. For example, a 300-silo CSB system would combine efficient land use, low cost and high hardness to stress the Soviet inventory to a level similar to the 4,600 shelter, low hardness, high land-use MPS concept. If the future target system required it, we could deploy additional missiles in CSB, maintaining its inherent survivability and efficient land use features.

It is important to remember, however, that CSB places high stress on Soviet technological and operational capability, and the flexibility it gives to counter Soviet response attempts. Our present analysis indicates CSB need not exercise its growth options until radical changes are made in Soviet ICBM systems. If

and when they are needed in the mid-late 1990's, deception appears most promising.

If an ABM is ever required, the compactness of CSB makes it the only basing mode we know of which could make efficient use of a Treaty-constrained BMD. In addition, even simple systems, such as the SPARTAN ABM, could completely disrupt Soviet attacks based on exquisite timing envisioned with only a handful of ABM weapons. Options such as deception or defense range from $5–6 B (fiscal year 1982 dollars) for 200 additional silos, to $9–12 B (fiscal year 1982 dollars) for a Treaty-sized ABM. Deployment times could be 2–5 years after decision.

In reality, we would most likely combine both countermeasure and options if a serious Soviet threat were to appear. This ability to flexibly respond to any threat is CSB's most appealing feature. Countermeasure deployment in general would be first priority. Since the countermeasures are tailored to meet specific threats, we would prioritize individual countermeasures upon hard evidence of Soviet threat deployment. With the major growth options, however, we believe deception would be the most appropriate first U.S. response, reserving the option for a defensive system later in the program.

Chairman TOWER. Dr. Keyworth, it has been stated by administration spokesmen that nothing in the current Soviet inventory would put at risk missiles deployed if the closely spaced basing system were available today.

Can you tell us the basis for this contention? Again, is it correct and what is your basis for this contention?

Dr. KEYWORTH. First of all, I do believe the statement is correct as you quoted it. It comes from a careful and detailed analysis, conducted over many months of exactly what options are available to the Soviets now and what developments could occur in the future to reduce the survivability of the CSB concept.

Looking at today's Soviet capability, I see no means—without deploying their entire ICBM fleet—to take away the deterrent value of MX–CSB. In addition, we have spent considerable time—as has the Air Force—extrapolating of extending conceivable technologies well into the future; we still see no serious threat to the system.

I might offer that perhaps the most serious threat comes from the potential future development of a maneuvering reentry vehicle with very, very high accuracy. I know that it would be a substantial effort for us to achieve the required accuracy and overall capability, because we're talking about late 1990's technology. But even if the Soviet's were able to deploy it there are two means by which to readily counter it.

Such a highly accurate system would rely on a terminal homing capability. That, of course, is highly susceptible to rather straightforward jamming through electronic countermeasures.

If necessary we could also move to an antiballistic missile system but that wouldn't be any sooner than the end of this century if at all.

Chairman TOWER. Mr. Ambassador, you have previously expressed some misgiving as to whether or not the closely spaced basing system was compatible with the SALT agreements.

Do you still have those misgivings and if they have been allayed, can you tell us why?

Ambassador ROWNY. Mr. Chairman, in previous consultations with this committee, you are correct, I did express some misgivings. You will recall that I said that the Soviets could be expected to say that any such scheme would undercut the SALT agreements.

After I consulted with the committee I went back and talked to the MX people. I was assured by discussions with them and further brief-

ings that the MX in the CSB mode would be so designed so that the canister, itself, would be the launcher.

When I was convinced, as I became convinced, that this was so, then I was convinced that it would not violate the SALT accords and that is my view today, sir.

Chairman TOWER. Thank you, Mr. Ambassador.

Let me ask this question for any appropriate panel member to respond to.

We read this morning in the Washington Post that consistent with the hard line that was laid down by Brezhnev in his last days that the Soviets intend to further escalate the production and deployment of offensive strategic nuclear weapons.

What would be the most likely form that that would take? Would it be the conversion of SS–20's into SS–16's by the addition of additional boosters which could be accomplished in a relatively short period of time? What would they likely do to rapidly increase their current strategic capability?

Secretary WEINBERGER. Mr. Chairman, they have an enormous capability now. That is one of the points I was making. I think they are apt to be working on mobility for intercontinental range missiles and most likely considering the various counters that have been discussed here in the event the closely spaced basing mode is adopted.

As was pointed out by Dr. Keyworth, by me, General Vessey and General Rowny, we know the counters to things they may take and do. But I think the idea that the MX would cause them to embark on some major escalation I think is plainly wrong.

They have been embarked on major escalation for 21 years and they have never slowed down. There is no reason to suppose they are going to slow down now, whatever we do.

Chairman TOWER. Thank you, Mr. Secretary.

The committee has as part of its action on the fiscal year 1983 defense authorization bill requested of the Department of Defense a study laying out alternatives whereby the United States can enhance the capability of its sea-based deterrent forces.

Many in the Congress believe that the appropriate response to the President's dilemma is the finding of survivable means of deploying MX on land would be to place greater emphasis on our at-sea nuclear capability.

So, in the interest of having the fullest and most informed debate on this notion, I think it is imperative that we have from your office the requested study before we complete our deliberation on the MX.

Can you provide the study for us?

Secretary WEINBERGER. Yes, we certainly will. I will say preliminarily that we are conducting the necessary activities to improve accuracy, yield, and survivability of the sea-based leg through the D–5 missile which will come on board in 1989.

If there is some suggestion that SLBM's could substitute entirely for the ICBM leg, that would in effect give up one part of the Triad and consequently have all the adverse effects we have already mentioned. But we certainly will supply that study.

[The information follows:]

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The study requested by the Congress which will examine options available to expand the capabilities, survivability and effectiveness of the U.S. sea-based strategic force has been undertaken by the Secretary of Defense in coordination with the Secretary of the Navy. It will be forwarded about April 1, 1983.

Chairman TOWER. Thank you, Mr. Secretary. My time is up.

Let me say at this point we welcome Senator Simpson of Wyoming here. We invited both of the Senators from Wyoming to attend the session today in that their State has been identified as the location of the closely spaced basing system.

Senator Wallop is detained in the Intelligence Committee conducting hearings on this very matter.

We welcome Senator Simpson.

Senator SIMPSON. Thank you very much, Mr. Chairman.

Chairman TOWER. Senator Stennis?

Senator STENNIS. Mr. Chairman, I made a brief statement at the opening of the hearing about my strong support for the MX. I would new like to offer this observation.

Of course, we have had the issue of the MX before our committee for many years. I remember 4, maybe 5 years ago, I was mightly tired of our carrying it over each year because of the basing mode problem.

There was a lot of talk about the MX, for and against it, so I presented a parliamentary situation in committee so that we could get a vote from the membership as to those who favored or those who opposed the MX missile, itself. That was apart from the basing mode. To my best recollection, every member voted for the MX as such, except four.

As I remember their arguments, they were largely concerned with the basing mode. Anyway, the overwhelming support of this committee was for the MX as such.

The vote yesterday in the House, and I speak with deference to the House, was just on the naked proposition of taking the money out for the MX. That would indicate something has happened—uncertainty of the membership with respect to the sentiment of the country.

I, too, am concerned about the basing mode, but here we are back where we were 10 years ago, arguing mainly about the basing mode. I think we have to do something to clear this thing up and move this thing forward. If it is necessary to put this in the hands of the experts on the basing mode, we could do that, but we can't back down now. The President has said that he is considering withdrawing from these negotiations if he is not going to have backing on this main weapon.

I have to say I think he is correct in that conclusion, even though I would hate to see it happen. We would make a great mistake to state that we can rest on our oars. I don't think we are way behind. I don't think the other side is superior or even ahead of us in any way, but we have to move.

I hope we can find a way to close ranks on this matter and provide this money so that research and development can go forward and the present Chief Executive can go forward.

That is all I have.

Chairman TOWER. Thank you, Senator.

Senator Warner?

Senator WARNER. Mr. Secretary, over the past few weeks, I have made an intensive study of this option. I have had the benefit of the briefings of General Skantze of the Department of Defense, and others.

Last night, following the vote in the House, I talked with a number of the Members of the House. It was their feeling that if the Department of Defense had made available more of the classified information, Members of that body would have been better informed, that we would not have had such a dramatic rejection of these production funds.

Have you, in light of the House action, reconsidered the delicacy and the difficult balance between what should be classified and unclassified and the need to put in the public domain more of the classified information so that we can have a better understanding?

Secretary WEINBERGER. Senator, I have not changed my position because it has always been that we should have more classified information released about the nature of the Soviet threat.

I spent a considerable amount of time last year persuading them to release more than they had previously wished to do, and we put that in the book "Soviet Military Power" that does contain a great deal of information that previously had not been released.

I offered the release of a great deal more information to demonstrate the growing nature, the dangerous nature of the Soviet threat. I believe a great deal has already been made available. We offered a great deal more in the form of classified briefings to individual Members of the House.

Obviously, the more we can persuade the intelligence community to release information, the better it will be, as far as I am concerned. I don't think that is a reason for not voting for the MX.

Senator WARNER. I am suggesting the American public is becoming involved in this decision as well as all others relating to the strategic posture of this country. I think that it is a healthy development. I believe that the American public would be more supportive if they had available more of the information that is available to me and Members of the Congress.

Secretary WEINBERGER. The more that is available, the better I like it. I have urged this repeatedly since I got here. We did have some measure of success last year which I incorporated in the book, and we persist in the desire of making more available.

The intelligence community does not want to compromise its sources and disclose information that will be helpful to the Soviets because the Soviets have so much information that is harmful to us that we don't want to add to that stock.

Senator WARNER. In view of the action last night and the difficulty now facing the Senate, would you renew these efforts to see whether or not such information could be made available to the public?

Secretary WEINBERGER. I would be delighted. Again, I say not having that information available in the amounts that we would like for the public should not constitute a reason for voting to kill the procurement of the missile.

I will be delighted to persist in my effort, which I have done for almost 2 years now, to have more released.

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Senator WARNER. Let us return to the request made by the chairman; namely, Dr. Townes' views. I have met with a number of members of that panel. I am, of course, familiar with his letter.

Could you comment on the contents of that letter in such a way to put into context the reservations expressed by Dr. Townes and, in particular, can you identify the degree to which Dr. Townes' criticisms were taken into account?

Secretary WEINBERGER. His reservations were taken into account at all times. I was the one who persuaded him to serve both in 1981 and 1982, and he is a very distinguished scientist, a person whose views benefit the United States.

The gist of his reservations, as I understand it, was that we did not know if we could achieve the degree of hardness we would all like to achieve because we have never attempted to achieve it in the past.

He agrees, as I understand it, that the means of achieving that degree of hardness involve no new technology. It involves the use of concrete and reinforcing bars, which is a comparatively simple technology. It does however, involve a larger scale than used before.

He is right in saying we have never achieved it because we have never attempted it. He points that out as a proper and necessary caution. He is uncertain precisely as to when the Soviets would devote the necessary efforts to counter the proposed closely spaced basing.

He recognizes, as we all do, that if and when they start those countermeasures, it is quite possible for us, as Dr. Keyworth and others have pointed out, to deal with that problem in a way that can preserve the survivability of this system.

Those are the principal points that I recall he made, and he made them in response to a request from me to advise us what problems were involved. We did take those views into consideration.

We talked with people who are specialists in the hardening of sites and silos of this kind and received very encouraging and favorable reports from them as to their belief in our ability to achieve this degree of hardness which, as Dr. Keyworth points out, is one of the key elements—hardness combined with close spacing.

These are things we would build into the design from the beginning.

Dr. Townes has done what he was asked to do. He has indicated his frank and honest opinion. He has these reservations. They were taken into consideration.

Others do not share all these reservations, and you are not going to get a 100 percent agreement on any of these matters.

Senator WARNER. That is clear, but you did take into account fairly and objectively his criticisms?

Secretary WEINBERGER. Yes indeed.

Senator WARNER. Turning now to another, shall we say, nonpartisan source of criticism, the Congressional Budget Office, took a very strong viewpoint with respect to this system.

I would like to provide you the opportunity now to comment on the CBO's views.

Secretary WEINBERGER. I have not seen those views in detail. There are so many reports that come from that Office that I don't know which ones you are specifically referring to.

But does this relate to the validity of the cost estimate?

Senator WARNER. Also to the use of the system. General Skantze, I know that in our discussions, you have taken into consideration the CBO report.

General SKANTZE. Yes, sir, that report which was sent to Chairman Jones on the House side has only been out about a week. We have done a quick analysis. I think the figures that were quoted, particularly last night in the debate, assumed, that there would be warning and all forces would be on alert, which is not the basic premise on which we operate.

In other words, if you only use alert forces, the contribution of MX is much higher than was quoted. Then if you consider the prompt hard target kill capability, which only the MX could give you, it is an even higher percentage.

We can submit our analysis of that report to the committee.

[The information follows:]

I. STRATEGY FOR DETERRENCE

Strategic nuclear forces exist to meet United States national security objectives. Despite the change in the threat and the consequent evolution in U.S. strategy and forces, our main objective has been to deter the outbreak of war. Should deterrence fail, our second objective has been to deny the enemy his objectives and bring the conflict to a rapid conclusion on terms favorable to the United States.

For deterrence to be effective, several things are necessary. First, our forces must demonstrate that they could survive a preemptive attack and respond in a deliberate and controlled manner with sufficient strength to threaten losses that would outweigh any potential gains an adversary could expect from his attack. Second, our threatened response must be credible; that is, it must be of such a nature that the enemy believes we would carry it out should the circumstances dictate.

To meet this strategy requires an emphasis on targeting those assets identified as important to Soviet decisionmakers. ICBMs represent one of the strategic assets most valued by the Soviets. They are accorded a special position in Soviet strategy and represent the bulk of Soviet striking power. The capability to threaten these forces in a second strike requires forces which are highly survivable with long endurance; accurate to assure hard target kill with low collateral damage; and highly responsive; and flexible for retargeting.

Elements of U.S. strategic forces, at present, do not have the necessary capability to carry out an effective response against high value Soviet targets under all circumstances. Thus there is compelling need for new systems that incorporate technological advances, are capable of quick response hard target capability, are target flexible, and are designed for long endurance.

II. THE IMPORTANCE OF THE TRIAD

The U.S. strategy of deterrence of nuclear war has historically been met by the deployment and operation of strategic nuclear forces composed of three elements. These are land-based intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and manned bombers.

In addition to meeting the primary goals of U.S. strategic policy, deterrence of nuclear war and the assurance of a survivable and credible second strike capability, a modernized Triad also satisfies other objectives. It permits the capability, under all conditions, of destroying selected Soviet political, economic, and military resources critical to postwar recovery. The Triad deters across the full spectrum of nuclear warfare for should deterrence fail, it insures a credible metered response appropriate to the Soviet level of aggression. It also assures the survival of a strategic reserve force.

Each of the individual legs of the Triad possess highly desirable and unique characteristics which result from their particular technology or deployment mode. When integrated into a single strategic entity (the Triad), these individual characteristics interact to provide a high degree of synergism. This syn-

ergism results in the viable and robust capabilities necessary to meet U.S. strategic goals and precludes the need to incorporate these same characteristics in the other legs.

The combined elements of the Triad provide redundancy and diversity. The diversity of the Triad complicates Soviet offensive and defensive planning, thus strengthening deterrence. For example, an SLBM attack on bomber bases would give adequate warning of an imminent attack on ICBMs and conversely, an attack on ICBMs would provide adeqaute warning time to launch the bombers. In addition, the need for the Soviets to pursue defenses to counter all three legs of the Triad dilutes Soviet resources which could be devoted to offensive systems.

Redundancy of the Triad insures that the United States will possess sufficient capability for effective retaliation across the entire target spectrum. This is possible since the Triad structure permits cross-targeting to assure adequate target coverage despite the loss of one of the other legs of the Triad.

The diversity and redundancy of the Triad also provides a hedge against two potential problems. First, any technological deficiency which may be discovered in any element, e.g., vulnerability of ICBM silos to EMP, can be redressed in a rational manner. Second, a rapid evolution of the threat to any one element can be covered by the existence of the two remaining elements. Soviet efforts to improve anti-submarine warfare capabilities do not affect our ICBMs and bombers. Improving Soviet air defenses have no effect on our ballistic missile capability. And SLBMs and bombers are unaffected by improvements in Soviet ICBM accuracy. Over the long term, maintenance of the Triad requires a diversity of Soviet defensive efforts that strains resources and dilutes efforts that might lead to further breakthroughs in air and missile defenses, anti-submarine warfare, and counterforce weapons. Should such breakthroughs occur the diversity of our forces assures our deterrent capability until the viability of that element of our strategic capability can be restored.

This is the situation in which we currently find ourselves. The Soviet Union through unexpectedly rapid advances in guidance technology now have the capability to eliminate some 95 percent of our fixed land-based ICBMs in a preemptive attack while expending only a small portion of their strategic forces. This has placed an increased reliance on the other two legs of the Triad to maintain our deterrent posture. But the fact remains that the margin of safety with two legs is much less than with three. The possibility of a defensive breakthrough (ASW, Air Defense) against the other legs now becomes critical. We simply cannot permit the enemy any perception of weakness. The history of [deleted] teaches us that it is precisely such perceptions that lead nations into war.

The point is that the failure of our forces to deter nuclear war would be catastrophic. This requires the full force of our technological capability to be brought to bear on the problem. Since strategic programs span a number of years and represent only 15 percent of the defensive budget in a given year, raw affordability is not an issue.

III. THE UNIQUE ROLE OF ICBMS

As stated above, each of the individual legs of the Triad possess highly desirable and unique characteristics which result from their particular technology or deployment mode. ICBM warheads represent a special category necessary to maintain our deterrent posture. The addition of the Peacekeeper system should be viewed as additions to this special category rather than adding weapons to our nuclear inventory.

The vast bulk of the command, control, and communications (C^3) system for ICBMs is fully contained within the continental limits of the United States. This allows simplicity, rehability, and redundancy in C^3 structure as well as positive two way C^3. Because of this capability, it is the most responsive element of our nuclear force. Execution of an ICBM launch can begin within minutes. In addition, target flexibility needed to support a range of nuclear attack options is achieved through the capability to rapidly retarget and to effectively strike the entire target spectrum. The high weapon system reliability of ICBMs assures that if executed there is high confidence that ICBMs will arrive at their assigned targets and detonate. In contrast, SLBMs are difficult to reprogram, their C^3 is limited and potentially vulnerable and their coverage of the target system may be incomplete due to their lack of target flexibility. Although SLBM flight times are shorter than those of ICBMs, in operation SLBMs are less responsive than ICBMs

and depend on a much more tenuous C^3 capability. Bombers are even slower and are therefore unsuitable for time urgent targets, although they do provide a maximum of target flaxibility.

The survivability of bombers and SLBMs depends greatly on tactical warning and mobility. Bombers rely totally on warning to escape attack as do ballistic missile submarines in port. By contrast, ICBM survivability is independent of warning. Our ICBM forces have been designed to survive an attack.

Continental U.S. basing of ICBMs provides freedom from dependence on foreign basing areas and an unambiguous recognition of an attack since an attack would equal a violation of sovereign territory. SLBMs are susceptible to ambiguous attacks at sea; conventional antisubmarine efforts could cause SLBM attrition. Both bombers and, to a lesser extent, submarines in port are vulnerable to paramilitary and terrorist attacks that could disrupt operations.

High alert rates and force availability at relatively low operating costs assur that at all times virtually all of the ICBM force (approximately 99 percent) is available for immediate launch. This compares to about 70 percent for SLBMs and 30 percent for bombers.

ICBMs can deliver their payload to the target with sufficient accuracy to provide high damage levels on all targets. This accuracy is not dependent on external references such as the Global Positioning System or stellar updates as with SLBMs and bombers.

The ICBM provides unique advantage to our Triad of strategic forces; however, ICBMs face real difficulties contending with the threat posed by current Soviet forces. Fixed ICBM locations are known and weapons within the current Soviet SS–18 and SS–19 inventories are sufficiently powerful and accurate to destroy isolated ICBM targets. [Deleted.] In their current configuration, our ICBMs have poor prospects for surviving a preemptive counterforce attack by the Soviets.

ICBMs play a unique role in U.S. deterrent strategy because of their capability to carry out prompt, closely controlled, and effective attacks of hardened military targets. While ICBMs are uniquely suited for this role, they also increase the survivability and effectiveness of their elements of the Triad in unconstrained retaliation.

IV. ANALYSIS

The analysis of ICBM contributions to our strategic forces by the Congressional Budget Office fails to address the unique advantages of ICBMs in the context of our deterrent strategy. While quantitative analysis cannot address all of the capabilities we need in our strategic forces, the CBO focused on measures that are appropriate only to an unconstrained punitive attack. They did not address capabilities for prompt attack of hardened military targets which is the unique capability of ICBMs.

Moreover, the CBO report addressed a time period more than 10 years in the future. Its focus on 1996, when all of the current strategic initiatives would be complete, ignores the intervening 14 years. It also ignores the distinct possibility that the programs conceived now will be changed substantially by time and politics. In essence, the CBO report compares what may be available in the mid-1990s with a program that can be available in about six years.

Our analysis uses measures of effectiveness that address the mission of the ICBM within our current and evolving strategy. It focuses on the time period which is more relevant to our present concerns and our present knowledge than 1996. The analysis uses the normal day-to-day alert posture because the primary mission of strategic forces is to deter war under all conditions, not just those resulting from a visible crisis. The Soviets must never believe that a surprise attack is in their best interests. This is a demanding, but vital, worst-case but vital scenario for United States.

There are a number of measures of effectiveness that can be used to evaluate strategic weapons but the selection of appropriate measures of effectiveness for evaluating the Peacekeeper's contribution to our strategic forces depends upon the mission of the ICBMs. Their accuracy and responsiveness make the ICBMs most suited for attack options that require time-urgent response, capability against very hard targets, and limited collateral damage. Prompt hard-target kill capability is the appropriate measure of the Peacekeeper's capability to perform the ICBM mission. Other measures in decreasing order of appropriateness are: prompt hard-target weapons, hard-target kill capability, hard-target weapons, and total weapons.

CBO used, in their analysis, measures way down the list in terms of appropriateness. They concentrated on total weapons and hard-target weapons—measures that do not adequately represent the role of ICBMs.

Our analysis uses most of these measures starting with total weapons and explains the conclusions and the drawbacks of each measure. It does not use equivalent megatons or throwweight. Equivalent megatons is a good measure for estimating the capability to damage to area targets such as industrial complexes and urban areas. Throwweight is a good measure for estimating the potential weapons-carrying capability of a bomber or missile. Neither is appropriate for evaluating Peacekeeper because they do not take into account its primary mission—i.e., to destroy time-urgent, hard military targets.

A. *Total weapons*

Evaluating the strategic forces in terms of total weapons is a useful but preliminary assessment, particularly when comparing the effects of different alert postures. Figure 1 compares the number of U.S. and Soviet weapons for various scenarios. Before a Soviet attack, the United States has about 2,000 more weapons than the Soviets. But note the preponderance of ICBMs in the Soviet inventory—well over 75 percent. Even with the Peacekeeper, ICBMs comprise only 20 percent of the U.S. force.

[Figure 1 deleted.]

The next set of bars shows the number of weapons remaining after a strike when the United States is in a generated posture. [Deleted.]

The two major conclusions that we can draw from an analysis using total weapons as a measure of effectiveness are:

1. [Deleted.]

2. The Soviets have many ICBM weapons. Even with a two-on-one attack on U.S. silos, they still have many ICBM weapons remaining. These are many time-urgent hard targets, which must be destroyed to prevent further attacks on the United States.

A major weakness of total weapons as a measure of effectiveness, however, is that it does not show the capability of the U.S. weapons remaining after an attack. In particular the measure neglects the capability against all the many remaining Soviet ICBMs and other hardened targets.

B. Hard-target weapons

The number of hard-target weapons is a measure of effectiveness that shows the number of weapons with the capability to attack hardened targets. [Deleted.] Figure 2 shows the number of hard-target weapons both before a Soviet attack and after a surpise Soviet attack from a day-to-day posture.

[Figure 2 deleted.]

[Deleted.]

The problem with this measure is that it makes each type of hard-target weapon look as good as any other. In fact, all types of hard-target weapons do not have the same capability to destroy hard targets. [Deleted.]

The next measure, HTK, corrects for this problem.

C. *Hard-target kill potential (HTK)*

The measure of effectiveness is a measure of kill potential. It indicates how many targets can be destroyed. HTK is defined by

$$HTK = SSPK \times WSR \times PTP$$

where SSPK=Single Shot Probability of Kill (against a 4,000-psi target)

WSR=Weapon System Reliability

PTP=Probability to Penetrate (=1.0 for ICBMs)

Figure 3 illustrates the number of hard targets that each type of hard-target weapon can destroy.

[Figure 3 deleted.]

[Deleted.]

However, hard-target weapons and hard-target kill potential do not measure well the promptness a U.S. response.

D. *Prompt hard-target weapons and prompt hard-target kill potential*

[Deleted] debate is on whether the more than 1,000 Soviet silos are time-urgent targets. Those who believe that the silos are not time-urgent contend that most of the silos would be empty after an attack on the United States and that we would not gain anything by attacking them immediately.

But not all the silos would be empty. In fact, with the projected 1990 force, the Soviets need use only a portion of their SS–18 force to target two warheads on each U.S. silo. There may be many warheads remaining in the silos which can theaten the United States even after a Soviet preempt.

Figures 4 and 5 show the prompt hard-target weapons and the prompt hard-target kill. The promptness requirement eliminates the bombers which certainly have hard-target kill capability, but only after 10 hours of flying time. It also eliminates those SLBMs which are at sea but out of range for attacking Soviet hard targets.

[Figures 4 and 5 deleted.]

[Deleted.]

These remaining ICBMs constitute the bulk of the Soviet strategic, secure, reserve force. This force could be used to hold U.S. value and leadership targets at risk. Besides such nuclear blackmail, it would also provide to the Soviets an unmatched power projection force. If we are to end a war quickly and on terms favorable to us, we must be able to destroy this force quickly and completely.

Figure 6 summarizes our results so far.

[Figure 6 deleted.]

Figure 7 shows the effect of increasing the Peacekeeper force from 100 to 200 missiles.

[Figure 7 deleted.]

[Deleted.]

Figure 8 shows the relative contributions of D–5 and MM III if there were no Peacekeepers. It is included for comparison purposes only.

[Figure 8 deleted.]

In addition to these quantitative factors, there are qualitative factors which can describe Peacekeeper.

E. *C'*

The land-based ICBMs have secure and reliable command, control, and communications. The military commander can exert positive control and responsiveness to the military requirements.

F. *Execution timelin s*

[Deleted.] Thus, ICBMs can be used against time-urgent, hard targets.

G. *High alert rate*

The 98 percent daily alert rate permits the Peacekeepers to ride out a surprise attack and still make a significant contribution to the capability of our strategic forces.

H. *Accuracy and precision*

The high accuracy permits precise and reliable targeting of the Peacekeeper with limited collateral damage—a definite advantage in limited nuclear war. It also permits a high probability of damage against hard targets.

V. COST

Reagan's fiscal year 1981 Strategic Modernization program is $181 billion. The Peacekeeper costs $26.4 B. The Peacekeeper accounts for only 15 percent of the entire modernization program.

VI. SUMMARY

The U.S. deterrent strategy relies on an ability to respond to all possible types of nuclear attack and to hold all potential targets at risk. The Peacekeeper Missile System plays an essential role in this strategy because of its unique capability to promptly destroy hardened military targets early in a nuclear campaign and under precise control of the National Command Authority. The Peacekeeper represents a unique capability for limited response and closely controlled, discriminatory attacks. As such, it is essential to our ability to

control escalation, encourage war termination, and to reduce the effectiveness of the Soviet war machine.

Other weapons provide future capabilities against hardened military targets, but lack the control and responsiveness that characterize the ICBM force. The Peacekeeper missile system is ready for acquisition now. It can be operational late in this decade, while other weapon systems remain in research and development. In short, the requirement for Peacekeeper is pressing. A successful ICBM program is needed now to counter the growing asymmetries between U.S. and Soviet nuclear capabilities and to give meaning to our deterrent strategy.

Secretary WEINBERGER. General Vessey also has a point.

Senator WARNER. Yes, but as I understand the thrust of this report is that this system would only contribute marginally to our deterrent capability?

General SKANTZE. That is correct.

Senator WARNER. General Vessey?

General VESSEY. One of the points made in the report was that in the year 1966 it would contribute only a small portion of the surviving force. I would submit to you that projection from now into 1996 is very difficult to do.

If you look back 14 years ago today and ask yourself what did we, the JCS, what did the Department and what did this committee predict the strategic situation would look like 14 years hence, it is a lot different from what we would have predicted.

The other point that General Skantze made is that if you look at the first years that the MX is fielded and you ask yourself what percentage of the surviving time-urgent hard target kill capability will the MX produce, it will be 100 percent of the surviving time-urgent hard target capability.

Secretary WEINBERGER. In further response to that, the Minuteman system has given us substantial protection for about 20 years. That has been an enormous contributor to the peace of the world and the freedom from nuclear war.

We believe we will get more than that out of this new system.

Senator WARNER. Is there general uniformity among members of the panel with respect to the time it would take the Soviets to develop responsive threats to this system?

Secretary WEINBERGER. I don't think there can be any uniformity of thought on that because it depends on the degree of importance which they attach to the effort and the degree of success they have with their preliminary efforts which will undoubtedly require testing and modifications as they go along.

There are some estimates that if they dropped everything and concentrated their entire effort on this particular problem, they could start to get some effective counters in 1990 or 1991. We will know about it as soon as they start that kind of effort, and we will know what to do to counter that kind of response.

We have every confidence in assuring you that this system will give us survivable and enduring deterrence well into the late 1990's. If we have to put the additional option of ballistic missile defense with it and some of the improvements we hope to have in that system by that time, then we should have this kind of survivability well into the next century, and this would be comparable to the kind of credible deterrence that we have had with Minuteman for many years.

Senator WARNER. Thank you.

Chairman TOWER. Senator Jackson?

Senator JACKSON. Mr. Chairman, I would like to make a few comments and then ask a question.

I think it is obvious that we need the Triad, the bomber-based, the land-based ICBM and the sea-based submarine strategic force.

The problem that we have here, and I speak as a politician, if that is all right, is that the MX has suffered a serious debasement by reason of a whole series of proposed basing modes. I have talked to people out in our country who are very conservative.

That is what happened in the House. They were not voting on the MX. They were voting on MPS, the race track and now Dense Pack. The public has the idea it is a boondoggle, a Rube Goldberg. You cannot explain it. I think that is what the purpose of this meeting here is, to try to find a political solution to this problem, Mr. Chairman.

I just speak my mind. I think I reflect what other people are saying. I do not have to agree with it all, but if you do not know what they are saying, you cannot effectuate a solution. I start from the premise that if you give up unilaterally the land-based system, you also give up the bomber base.

There is no way in which you can talk about a diad, no way, no way. It does not make logical sense because then the adversary can concentrate everything, land based, on your bomber force. What we seek and pursue here, Mr. Chairman, it seems to me, is credibility, credibility to prevent an adversary from taking those risks that could lead to nuclear conflict. The goal is to avoid nuclear war.

I think the Soviets have an enormous interest to avoid nuclear conflict. I think they believe that as they build up their forces their ability to achieve political and diplomatic objectives will be enhanced. They see a golden opportunity to impose primacy, what the Chinese would say is hegemony, and some of us who are not at that level just plain blackmail, because they view their opportunities as being great in the political area, on the diplomatic front.

I think we have to look at this system in its totality.

I must say that the Russians have a luxury that we do not have. They do not have to plan to the extent that we do on our land-based system to have hardness because they know with our open society, and I assume there are some Soviet representatives in the room, they have the advantage and the opportunity to know what our view is and we would never be the first to make that intercontinental ballistic move.

My question is this in light of what I have just commented on: Can you really have a land-based ICBM in the context of reasonable investments—and we are in a period now where we are cutting in all areas—can we have a land-based ICBM system that will involve reasonable investments without running a substantial risk in terms of vulnerability?

I think we really need to look at that question, Mr. Secretary.

That is where I end up, Mr. Chairman. I am not sure that we need to go as far as we have been going in terms of having a credible response.

Secretary WEINBERGER. Senator, in response to your question, my answer would be yes, we can.

I would like to comment on a couple of points you have made, if I may.

I agree with what you have said about the diad and about the fact that you simply couldn't maintain any kind of credible deterrence if you gave up the ICBM leg of the system and you do need the Triad. I agree with that completely.

You made the point about the public's concern about the number of different kinds of basing modes and the discussion that Senator Stennis correctly referred to that has run on now for 10 years, and I think to some extent that is true.

I do think, however, that it is important to understand what has led to the consideration of a number of different modes. A number of different proposals have been discussed by a number of people at various levels over the years.

The trouble is that each one of these preliminary drafts, so to speak, is immediately taken and blown up into a full-scale proposal, and it is not anything of the kind. It is an idea or a thought, or it is somebody's suggestion where some thinking might be directed. But each one has been taken out of context, sometimes taken in an unauthorized fashion before it was ready for any kind of discussion and made into a full-blown proposal.

There have been two or three major full-scale proposals. One of them was the MPS system which the President canceled. He stated many times during his campaign that he opposed it and he followed through consistently with that after he took office, although he did want a full study of it made to see if his concerns about it were justified. That study was made and it did confirm his worries, and MPS was canceled.

That was a system which would have cost about $48 billion and involved 4,600 unhardened holes or silos and 200 missiles deployed among them with the heavy emphasis on deception.

Regardless of whether that was good or bad or right or wrong, it was a proposal which this President, after campaigning against it, decided should be canceled.

The proposal he made in October was an interim proposal. He recognized that the Soviets have received and taken and stolen or have been given a great deal of technology which has enormously increased the accuracy of their systems to the point where the protection we had in the 1960's is no longer a protection. That is why the Minuteman system is highly vulnerable now.

He asked that the Congress put these missiles, which he agreed should be built, into existing Minuteman silos and these should be hardened as an interim measure while more examination was given to see if we could not take advantage of some of the suggestions in the first Townes report. One of these suggestions was that we should thoroughly explore the phenomenon of fratricide and take advantage of that.

The Congress said no, it did not want any kind of interim mode in existing hardened silos, and we should abandon that, and we did.

Then there were reports that consideration was being given an airborne mode, which had been suggested tangentially in the first Townes report, and the Congress said no, we don't want you to consider that or spend any time or money on it, and we did not.

The Congress also said we want you, by the way, to let us know by December 1 what you want to do on permanent basing. What we did then was to very intensively study the new technologies that enable us to get much greater hardness as well as the phenomenon of fratricide and a number of other things that had been known for many years. We then put them together into this proposal which is before the Congress and which we believe is the most survivable and the most endurable basing mode.

I would answer your question by saying yes, I think for a reasonable investment, a little more than half of what was called for by the expenditure some years ago on the MPS system, you can have these hundred missiles in a field that will survive and will enable us to have the degree of retaliatory capability that is the essence of deterrence.

I think the CSB mode fulfills those requirements you have mentioned and it is the proposal that is before you.

Senator JACKSON. Mr. Chairman, my time is up. I have other questions.

Chairman TOWER. Senator Humphrey?

Senator HUMPHREY. Thank you, Mr. Chairman. I certainly agree with Senator Jackson's analysis of the events of last night. The action of the House was certainly hasty, to say the least.

Inasmuch as apparently a large number of Members failed to avail themselves of briefings, much less was there time for the relevant committee to delve into the subject in any detail, the House action borders on irresponsibility.

I want to state, Mr. Chairman, for the record that this Senator intends to continue supporting the MX missile until such time as the Armed Services Committee has had full and adequate time to go into this basing mode to the necessary degree.

I hope the press will make a distinction between those of us who continue to support MX on that basis and the support for MX now and forever.

Mr. Secretary, I think it might be useful for the American people, since there is so much misunderstanding not only in Congress, but among the American people about our defense effort, about our ICBM situation, if we look for a moment at how we got into the situation that resulted in both Democratic and Republican administrations searching high and low and desperately really for a way to base the MX missile.

Of course this fundamental matter goes back to a point years ago, I think in the Johnson administration, when a very fundamental decision was made that we would put the American people and our military assets at risk under the so-called MAD doctrine, mutually assured destruction.

We have come to the conclusion now that that doctrine was mad in more than one sense. That doctrine of refusing to protect our people and our military assets, missiles in this case, has resulted in the necessity of protecting our missiles by passive means instead of active means.

We, of course, want an antiballistic missile system that would be an active defense. So we are stuck now with passive defenses of our missile. I find it ironic, indeed instructive, that in this day and age of high technology and advanced mi[illegible]ery, that we are relying in very great

measure for protecting the MX on a substance invented by the Romans and with which the Maginot Line was built; namely, concrete.

Here we are in the missile age and we are relying heavily for the protection of MX on concrete, the stuff of the Maginot Line and a substance invented in a millennium or more ago.

So, we see a situation where the foreswearing of active defense in the acceptance of passive defense is driving us down to the path of less and less attractive options, more undesirable options, and at the end of the path is the option we all want to avoid, much less embrace; namely, launch on warning.

So, my question, Mr. Secretary, inasmuch as the administration has already admitted that by the 1990's an active defense of MX will be necessary, is the administration prepared now to seek a change in the ABM Treaty that will permit us to defend actively our missiles so that we won't be driven down this path toward less and less attractive solutions?

Secretary WEINBERGER. If any change were needed in that treaty, we would seek it, and I would certainly be the first to recommend it and recommend it immediately.

We don't believe any change in that treaty is necessary because that treaty allows the United States two ABM systems, one to protect the National Capital and one elsewhere in the country. We did choose Grand Forks, N. Dak., many years ago and abandoned it, rather fortunately in my opinion.

But there is no change in the treaty needed. The only change is that instead of Grand Forks we would put an ABM system in F. E. Warren Air Force Base in Wyoming. No change in the treaty is required.

I am fully prepared to make that notification anytime it is determined that an ABM system be constructed. This closely spaced basing field lends itself to a ballistic missile defense far more than any field we have now, or any deployment we have considered previously.

The closely spaced basing design would enable us to equip it with ballistic missile defense at any time. I agree with you that a much more effective ballistic missile defense is a much better way of trying to protect the Nation and the world.

I am not one of those who believes an active and effective ballistic missile-defense system is destabilizing. The sooner we can get to it, the better I like it.

Senator HUMPHREY. I am sure I agree with active defense. I am not sure how much protection the ABM Treaty would allow us. It allows 100 interceptors.

Secretary WEINBERGER. We have been assured that would be sufficient for the protection of this field.

Senator HUMPHREY. You are saying one interceptor per MX missile is sufficient?

Secretary WEINBERGER. Yes, I think so. We also have looked at the potential of adding a Phalanx system for layering the defense.

Again, Senator, that treaty, while it is important, should never be allowed to stand in the way of an adequate deterrent for the United States. I don't think it does at this point. I think it is an entirely academic point. So we don't even reach the comment I have just made.

Senator HUMPHREY. I am afraid I disagree with you. If we are to accept the treaty as it is, one interceptor per MX missile, we are forced to accept a highly sophisticated and expensive ABM system far out as an alternative to the presently available, relatively inexpensive systems which would not be permitted under the ABM Treaty.

Secretary WEINBERGER. You and I would have some disagreement because we do think the ballistic missile defense that we are permitted under the treaty would be sufficient, with the other measures we are taking, to give the protection to this field that would enable us to have the deterrent capability that we need.

Senator HUMPHREY. Mr. Secretary, I don't agree, I am sorry to say, and I hope the administration will not hold fast to that position forever.

In this case in 1981 the administration seriously considered the option of placing MX in Minuteman holes and super hardening them with the later addition of ABM defenses.

Why was that proposal abandoned?

Secretary WEINBERGER. Because the Congress ordered us to abandon it.

Senator HUMPHREY. I guess that is a good reason.

Haven't the Army's BMD experts come up with or proposed a quickly deployable and relatively inexpensive system to protect individual silos from destruction?

Secretary WEINBERGER. The protection of individual silos is one of the things of which the existing system is capable. Again you have the fact that the Soviets have fractionated and concentrated all their attacking capability on the Minuteman system we have now.

Under those circumstances the BMD is not nearly as effective as it would be in protecting the kind of field we are proposing under the closely spaced basing mode.

General SKANTZE. The Army ballistic missile people participated in the evaluation of the various concepts. What became readily apparent was that because you have such a dense, closely spaced array, you force the attack to come down a narrow column.

If you just took the existing assets; namely, the Spartan missiles and deploy them around the column BMD can provide leverage in taking out a large number of incoming RV's. As a result, BMD became an attractive growth option even with existing assets and within current treaty constraints.

Senator HUMPHREY. My time is up. I simply want to underscore once again the fundamental problem is that we have foresworn active defense and until such time as we drop that pledge and revise the ABM Treaty so that we can sensibly protect our missiles we are going to be chasing MX all over the map and with very little success.

Chairman TOWER. Senator Cannon?

Senator CANNON. Thank you very much, Mr. Chairman.

First, let me ask the chairman if we will be holding executive hearings to go into classified matters in connection with this or what do you anticipate?

Chairman TOWER. Yes, we will. I don't know whether we will be able to hold any additional hearings during the course of this session. We may. There will be hearings conducted both in the full committee and by the Strategic Systems Subcommittee.

We expect the Strategic Systems Subcommittee to get into the technical details and in classified intelligence information as well that bear on the system.

Senator CANNON. Thank you, Mr. Chairman.

First, I want to say that I join with Senator Stennis and a number of my other colleagues in being a strong supporter of the MX per se. I do not want to say that I am a strong supporter of this particular basing mode. I think that does pose a real question as to whether this is or should be the basing mode that should be adopted even though I do subscribe to the system, itself.

Now, the issue of hardness has been talked about quite a bit here this morning. For the record would someone tell me what the hardness is in the existing Minuteman system and what the hardness is that would be anticipated in the MX system?

Secretary WEINBERGER. I can start on that briefly.

The existing Minuteman system is not hardened to any degree at all that is effective against the Soviet yield.

Senator CANNON. I know it is not hardened to be effective, but it does have a hardness. At least it was posed to be as having a hardness.

General VESSEY. A thousand psi.

Secretary WEINBERGER. Again that is like not having anything.

Senator CANNON. Well, it was pretty high at the time that was recommended.

Secretary WEINBERGER. Exactly. That is why we are here this morning.

Senator CANNON. What is the hardness of the MX system?

Secretary WEINBERGER. There are a number of different measures. I think General Skantze and Dr. Keyworth can give you precise numbers. It is in the neighborhood of 60,000 to 70,000 psi, a degree which I am frank to say has not been achieved in the past but could be.

Do you want to add anything?

General SKANTZE. The measure of the hardness, Senator, is the blast overpressure. When it hits the top of the capsule on the ground, it is the number of thousandths of a second pulse width that makes the difference.

When you use construction which uses a fair amount of steel, it gives a resi'ency to those capsules which we didn't have in the Minuteman silos which were largely concrete. So it can take this kind of pulse overpressure, if you will, and flex somewhat, but still survive intact.

Senator CANNON. What is that overpressure? What psi are you talking about there now?

General SKANTZE. What you are seeing hit the ground is on the order of 50,000 psi. At the ranges of interest, which is over in a couple of milliseconds.

Senator CANNON. What is the highest psi known in construction in this country today?

General SKANTZE. I can't respond to that, but we ran a test on November 8 in which we used a one-eighth scale silo. We measured across the 60 strain gauges 15,000 psi and on some of them instantaneously 30,000 psi. That is a measure of the kind of testing we are doing to come up the confidence curve on hardness.

Dr. KEYWORTH. May I offer one additional perspective?

The criterion that we have addressed is the largest bomb that the Soviets have developed, 27 megatons at the lethal radius, which is 900 feet. At 900 feet, that particular weapon produces 15,000 pounds per square inch overpressure and a peak pressure of 45,000 pounds per square inch. The silos that have been designed by the Defense Nuclear Agency can withstand those pressures.

Those are requirements for the 27-megaton bomb at 900 feet. This is about 10 times harder than the Minuteman missile silo. As General Skantze said, the MX silo has already been tested in a scale model test early in November. We duplicated the effects of the downward pressure, the vertical force, and the silo withstood those forces verifying our calculations.

They have already done some tests which very much verified the forces we would expect to come through the ground in an attack and so far not only have the calculations been verified, but in fact they have even been exceeded.

This is what lies behind my statement that we have such great confidence in our ability to achieve what really is not a terribly difficult requirement.

Chairman TOWER. Would the Senator yield for a moment?

Let me remind the witnesses we are in an open session and that if there is a need to go into classified information, we will have to go into executive session. I earlier said we would not have a closed hearing. but we can go closed on this one.

Senator CANNON. I don't want to pursue that point further. I recognize what we are getting into.

Secretary WEINBERGER. May I add one quick point? As an additional means of hardening we have made a very careful choice of the site selection. One of the principal factors in that was the kind of soil condition that would enhance hardness. This has not been, as I understand it, a consideration for many years because it did not seem to be necessary.

Senator CANNON. Dr. Keyworth, out of curiosity did you support or were you opposed to the MPS system before?

Dr. KEYWORTH. When I came into the administration I attempted to conduct as careful an evaluation as I could. I feel the MPS system is subject to a straightforward predictable threat from the Soviet Union by tripling the number of warheads on SS–18's already operational, they could target two reentry vehicles against each and every MPS silo. So I did not support that.

On the other hand, I have found no threats yet proposed by anyone that represents the same kind of ready threat to the Dense Pack or CSB deployment. We have heard comments today and estimates about threats by 1990 and 1995, but the fact is that no one has proposed a single credible threat today that will render 100 MX missiles in Dense Pack nonsurvivable.

Senator CANNON. I think you have answered my question. My time is running out.

Ambassador Rowny, I recall when you appeared before the committee before you were of the opinion at that time that we gave away too much in SALT II and as a result of your testimony and some others, this committee, nine of us at least, voted not to proceed with SALT II.

Are you still of the same opinion that SALT II gave away too much on our part?

Ambassador ROWNY. Yes, sir; I think the situation was that we could not get to a satisfactory agreement. SALT II was not a stepping stone to a true arms control agreement.

Senator CANNON. Of course we are abiding by the terms of SALT II voluntarily at the present time. You said earlier that you felt that this approach would not violate the terms of SALT II.

Can you be a little bit more specific or does that get into a classified area?

Ambassador ROWNY. I will try to stay in unclassified statements, sir.

I believe that the way to get what we are after is to have a measured response to this question of great ICBM asymmetry. It is the core of our proposal. It is the great Soviet advantage in ICBM's which makes the situation so destabilizing today.

Therefore I think that we should do what we can to correct this asymmetry. You do this in part by asking the Soviets to come down and you do it in part by repairing and modernizing our forces—to take care of our defenses and to pressure the Soviets. That is why I say measured response in order to close this gap. I think we can do that and be entirely consistent with the SALT II accords and not undercut the policy.

Senator CANNON. You said that the Soviets needed an incentive to negotiate, but you did not consider this as a bargaining chip.

What incentive do they have to negotiate if we go ahead on this approach and you are not using it as a bargaining chip?

Ambassador ROWNY. Sir, what I meant is that I don't believe in any programs simply to give me bargaining chips. If we need it for our security, that's why we need it. Once we get the force we need, than it does give you leverage.

I think there is a difference between leverage and a bargaining chip. Without the leverage I think we are very greatly handicapped in trying to get an acceptable agreement.

Senator CANNON. Thank you.

Chairman TOWER. Senator Cohen?

Senator COHEN. Thank you, Mr. Chairman.

Mr. Secretary, I agree with you, I think perhaps it is the height of hypocrisy for the Soviets to decry the production of MX. As I recall, SALT II was negotiated specifically with MX in mind. That is why we spent so much time with the various basing modes trying to comply with the provisions of SALT II.

I also would place it in the same category of the Soviets threatening the Europeans if they go forward with dispersal of Pershing II and the ground-launched missiles on which will be targeted on their cities and industrial centers in time of war.

I do not consider it to be an idle threat. I consider it to be a redundant threat. Having said that, the difficulty I have now is that we have a lack of credibility in this whole issue.

Mr. Secretary, you indicated that the President campaigned against the MPS decision. The Air Force told us not only that mobility was technically feasible and desirable, but absolutely imperative.

I see a lot of blue suits sitting here today. For 2 or 3 years, they came before this very same committee, each testifying that the vertical MPS or the horizontal MPS was absolutely technically feasible and desirable.

So, what appears to have been done is that a political decision was made to cancel the MPS because of domestic political and environmental opposition. That is my perception. Now there is a fear that we have arrived at a decision that may be environmentally acceptable, or more environmentally acceptable, and yet not technically feasible. That is one of the problems we have.

Mr. Secretary, you indicated to Senator Humphrey that the reason we didn't go to hardened silos is that the President wanted it, but the Congress said no, it definitely made us do something else.

The problem is that last year we had this document called "Soviet Military Power" and I quote from it, saying that:

> The single RV version of the SS–18 with their large destructive power and accuracy are capable of destroying any known fixed target with high probability.

Then, during our hearings, General Burke, who is now in the audience, in response to questions that were addressed to him said the following:

> Sir, in fairness to your position, I testified earlier that the Air Force had recommended, irrespective of congressional action, the super hardening was not worth the cost. It had some value. It also had a very big price tag and our recommendation was not to do that.

So it is not that Congress killed this particular decision. Rather the evidence that was presented to us as laymen dictated that we not go forward with the hardening of silos because there was, No. 1, a serious question according to this document, that we could harden sufficiently. No. 2, according to Mr. Townes, as I recall, there was serious doubt as to whether we possessed the technical capability of hardening to go 5,000 p.s.i. Perhaps it was 6,000 p.s.i.

Now, 1 year later, you come before us and say we have had a remarkable breakthrough in the past year, we can harden to 100,000 p.s.i. So it seems to me we have a problem of credibility.

What accounts for this breakthrough in 1 year's time of the hardening of silos to 100,000 p.s.i. when 1 year ago it was felt we could not do it to 5,000?

Dr. KEYWORTH. May I make several comments at this point?

Secretary WEINBERGER. Yes, following which I have several comments.

Dr. KEYWORTH. First of all, to the last question, I would not call this a massive breakthrough. During the course of study by the Townes panel, for example, the primary expert, Dr. Hall, very, very strongly stressed that it was not that great an extrapolation of existing technology to build this.

You must realize that for many years we have attacked a fundamentally different problem. The Soviets do possess and we knew would possess sufficient precision to be able to destroy any stand alone silo that could be built; that is still a fact. A 27-megaton bomb can destroy any silo that we can build, given the existing accuracy that the Soviet Union possesses.

That is why we have proposed a basing scheme that essentially circumvents that fundamental threat by employing fratricide.

Senator COHEN. Congress was not in error in rejecting the hardened silo concept last year?

Dr. KEYWORTH. The individual Minuteman as you are addressing it could not have been protected against a large SS–18.

Senator COHEN. So Congress was correct in rejecting the hardening of silos as an interim basing measure?

Secretary WEINBERGER. No, sir, I don't believe so. It was never proposed as a final basing mode, but interim while more studies were given to other methods Dr. Keyworth has described.

Congress said in effect you cannot use any kind of interim basing. You have to tell us first by July 1, 1983, then December 1, 1983, what is your preferred permanent basing mode system. That is what prompted the intensive work that has led to this recommendation.

I would not say that Congress was correct in forbidding interim deployment while more study was given to this extraordinarily important matter.

Senator COHEN. Senator Nunn and I were on the floor on this important issue. What we were concerned about was the view of the window of vulnerability, which according to the military and professional testimony would not be closed significantly by hardening.

We came to the conclusion putting MX into the silos with hardening would hardly be relevant, that we would not close the window of vulnerability, we would open it further.

If the Soviets could target the Minuteman, they could target a more threatening missile such as MX and in time of crisis would be more likely to strike preemptively at MX for that reason. That is the basis on which Congress rejected it.

Secretary WEINBERGER. That overlooks the deterrent value you get from having deployed in the ground the MX missile with its greater accuracy, greater number of warheads and greater yield.

Senator COHEN. Do you feel, and again we are in the realm of speculation, that the Soviets are likely to respond by, No. 1, going to what Senator Jackson mentioned, a mobile missile, or No. 2, an ABM?

If they go to an ABM, what sort of complications would that present for us, whether it is MX or any other program?

Secretary WEINBERGER. Senator, they have responded. Some years ago they went to ABM. They are building an ABM system around Moscow. They have hardened their silos and taken a number of steps that you already indicated they might do, including a mobile system which they developed with intercontinental range.

They are working on it at greater ranges. They have done these things in advance. That is what we are trying to do to get ourselves a sufficiently effective deterrent so that we can continue to maintain deterrence.

Senator COHEN. With respect to ABM, as I understand the treaty, they are entitled to one ABM site and they can put one around Moscow and we can put one in Washington.

Secretary WEINBERGER. They have two. One around Moscow and they have one left.

Senator COHEN. We tore one down in North Dakota.

What would it do, in terms of our capability if they go to a full-scale BMD, ABM, whatever we want to call it? Does that render what we are trying to do irrelevant?

Secretary WEINBERGER. I don't think so. It leaves us with an ability to retaliate in such a way that we can inflict a sufficiently high cost if we have a survivable system so that they will be deterred from making that first strike.

It is not correct, Senator, if you will permit me to say so, to talk about their response. They put their response in 2 years ago. What we are trying to do is regain an effective deterrent.

Senator COHEN. Dr. Keyworth, is there reasonable disagreement within the scientific community about the feasibility of dense pack? Is there room for disagreement on this?

Dr. KEYWORTH. Not among those who have studied the issue of the currently proposed system carefully.

Senator COHEN. Would you put Dr. Kosta Tsipis in that category as one who has not studied this area sufficiently?

Dr. KEYWORTH. No.

Senator COHEN. Do you put him in the area of some who have studied it?

Dr. KEYWORTH. I put him in the area of some who have not studied the issue carefully and have not been apprised of the proposal as it stands now and developed in the last 6 months.

Senator COHEN. Do you find the material he has written to be without merit scientifically?

Dr. KEYWORTH. I wouldn't say without merit. I say the conclusion is not based on the system that we have proposed.

Senator COHEN. That is all I have, Mr. Chairman.

Chairman TOWER. Senator Nunn?

Senator NUNN. Thank you, Mr. Chairman.

Is it not true that both sides are permitted only one ABM site?

Ambassador ROWNY. There was a subsequent protocol that permitted one on each side.

Senator NUNN. If they did put an ABM site around a missile system elsewhere in the Soviet Union, they would have to drop the site around Moscow, wouldn't they?

Ambassador ROWNY. The way it is presently formulated.

Senator NUNN. We have heard a lot of comment this morning about the House decision yesterday and so forth. I think we should recall that what the House of Representatives did yesterday is what this committee did unanimously in our authorization bill.

Senator Warner's subcommittee decided that DOD should not procure the missile until such time as we had a basing mode. That passed the subcommittee. It passed the full committee unanimously. It passed the Senate of the United States.

What the House did yesterday was precisely what the Senate Armed Services Committee did, as I understand it, in the authorization bill.

The difference is that we now have a basing mode and we did not have one at that time. We also have basing mode that no one has had a chance to look at on Capitol Hill. This is the first hearing we have had.

Mr. Secretary, I would submit that after having canceled the MPS, basing mode, after President Reagan ran against it in the campaign,

and after proposing super hardened Minuteman silos and that interim proposal was rejected, and not having a permanent basing mode ready to propose to Congress, that the administration made a fundamental error in asking for production money in fiscal year 1983 for a missile when you did not know what you were going to do with it until somewhere around the end of November.

Secretary WEINBERGER. It was a fundamental error which the committee refused to recognize because this committee and the Senate Appropriations Committee appropriated the money to go ahead with the missile. They put a fence around it and they said you can't spend it.

Senator NUNN. We did that after going into conference and the conferees in the House insisted in their position.

I am saying the production for the five missiles was knocked out in the Armed Services Committee authorization bill and that provision went through the Senate. We changed it in conference and came back then with the money. Nevertheless, that is the history of it.

Secretary WEINBERGER. The history of it is that until the House action yesterday there were appropriated funds for this purpose which could be spent within a certain amount of time after the President submitted his recommendation for a permanent basing mode.

Senator NUNN. I don't want to take my time on that. I want to ask you one question, Mr. Secretary, on that point.

It seems to me that you really have the ox in the ditch now and the President has involved his arms control provision on this. He has said there is no need to negotiate in Geneva without this provision. He has escalated this to a level that I think is unwise. I think yesterday's decision indicates that.

Nevertheless, the question is what do we do now? What would you think, Mr. Secretary, about a provision that would put the money in for these missiles, but would fence it so that there could be no expenditure whatsoever of these funds until Congress had affirmatively approved the basing mode for the MX?

Secretary WEINBERGER. I would like to know what time the Congress would permit itself to make that affirmative determination. Our worry here is that we will lose the initial operating capability which is essential to be maintained in view of the Soviets' imbalance in their favor.

Senator NUNN. You should be concerned about not having any money at all.

Secretary WEINBERGER. Otherwise under the proposal you have made we might wait 2 or 3, or 4 years without having the ability to go forward.

The provision that was in the conference report which was adopted earlier was that the funds were appropriated or authorized subject to a time period in which the Congress could consider any basing modes proposed by the President, following which it would automatically take effect if it were not disapproved.

I believe that would be a much more useful sort of provision.

Senator NUNN. I am sure that would from your point of view. I don't think you realize the degree of trouble that the MX basing mode is in now, not having fully examined it. I don't think you realize the trouble you are in in terms of production.

Let me go into another subject because I don't have much time.

General Vessey, in your statement you say in the closing paragraph:

The JCS were unanimous in their recognition of the need and in their support for fielding the MX or Peacekeeper missile system. There were differing views on the basing scheme for the missile and those different views were all presented to the Secretary of Defense and the President before the decision was made.

Could you tell us about those differing views? I am not asking for the names of people and who held what view, but generally what were the other views by the Joint Chiefs?

General VESSEY. Some of the Chiefs were concerned that the President was being pushed into a final basing decision before all the technical uncertainties on the basing system were resolved. All agreed that the missile needed to be fielded and fielded quickly, and they were ready to field it even in an unprotected mode in order to have its capabilities.

In fairness I should say that the longer it was studied there was a greater trend toward accepting the probability that CBS would work.

Senator NUNN. Were there members of the Joint Chiefs who opposed the basing-mode decision and recommended against the dense-pack decision?

General VESSEY. Yes.

Senator NUNN. Could you tell us how many?

General VESSEY. Three recommended not proceeding with it at this time with one making the qualification to say that if it was believed that it would help move the arms control negotiations, he would recommend going ahead with it.

Senator NUNN. Three out of four members of the Joint Chiefs recommended against the basing mode?

General VESSEY. Three out of five, at the time.

Senator NUNN. At the time the decision was made, three were opposed but one of them qualified that by saying that if it would help in arms control, he would support it?

General VESSEY. That is correct.

Senator NUNN. Mr. Secretary, if you have three out of the four members of the Joint Chiefs recommending against this basing mode, then what gave you the confidence that your decision was the correct one?

Secretary WEINBERGER. The provision in the statute that requires civilian control of the Department.

Senator NUNN. I am not talking about your right to make the decision. I am talking about your confidence that your decision was the best decision for the security of the country. There is distinction between the right to make a decision and the question whether the decision was a right decision.

Secretary WEINBERGER. The overriding necessity of having in the ground as quickly as possible a response to the Soviet capability which, because of the facts that we have described for the last decade, have created a serious imbalance in their favor.

You have to keep in mind that this matter has been studied a long time and could be studied a long time in the future.

You also have to keep in mind, Senator, that we were under the direction of the Congress to report a decision by December 1 and that Congress rejected the opportunity we had sought of putting it in the

ground on an interim basis while we gave it further consideration.

Senator NUNN. Following up on Senator Cohen's statement, we had testimony from one of your top people after we made that decision not to permit the interim basing that that decision would have been made by the Department of Defense anyway.

Secretary WEINBERGER. That is totally inaccurate.

Senator NUNN. I will show you the testimony at a later point and give you the exact wording.

Secretary WEINBERGER. You are talking about one of the top people. I am talking about the direction of the Department, and the Department was not prepared to recommend that we abandon that interim request. We would never have recommended that we abandon it, but we were forced to abandon it by the direction of the Congress.

Senator NUNN. General Vessey, did the Chiefs assume when you were looking at this dense pack basing mode that ballistic missile defense would be a necessary part of that? What was your assumption about ballistic missile defense?

General VESSEY. The Chiefs recognized the same thing the Secretary said, that as the Soviets develop counters to this, that ballistic missile defense could well provide one of the counters to the attacks the Soviets could make on the system and that we should go ahead with the R&D for the ballistic missile defense and be prepared to deploy it.

Now there are some varying views among the Chiefs on how fast you ought to go with one of the Chiefs believing you ought to prepare for it from the very beginning.

Senator NUNN. Did you look at the question of deception and multiple aim point?

General VESSEY. We did and we also agreed you ought to be prepared to go ahead and consider deception as a possible means of increasing the protection of the system.

Secretary WEINBERGER. Those recommendations were adopted.

Senator NUNN. That deception would be part of the basing mode?

Secretary WEINBERGER. It would be part of the possible future addition to it; yes.

Senator NUNN. Did the Chiefs think that should be in the future or from the very beginning, that deception?

General VESSEY. The Chiefs generally viewed that it ought to be in the future.

Senator NUNN. In the future?

General VESSEY. Yes.

Senator NUNN. My time is up.

Chairman TOWER. The Chair makes a proposal; that is, that we go to Senator Thurmond's questions. My understanding is that he does not intend to utilize all of his time, and that we then break and come back at 2 o'clock. Is that agreeable to members of the committee? I did not anticipate we would go into the afternoon on this.

Senator QUAYLE. Is there any way we could shorten it to 5 minutes. I have a speech I have to make downtown around 2 o'clock.

Chairman TOWER. We could still reserve your right to ask questions. If you make a relatively short speech, Senator, you could be back in time.

Senator QUAYLE. I probably will not invoke rule 22 to people outside the body of the U.S. Senate.

Chairman TOWER. The only alternative is to go straight through. I am prepared to be guided by what members of the committee desire, particularly those who have not had an opportunity to ask questions.

Senator JEPSEN. I would like to continue for a reasonable period of time, say for another 20 minutes or so.

Senator QUAYLE. Until he gets his questions in.

Senator EXON. Mr. Chairman, it would be best I think that we continue. Maybe we can cut down our questions and finish earlier, but then I yield to what the majority desires.

Secretary WEINBERGER. Mr. Chairman, I will contribute shorter answers.

Chairman TOWER. Let us go ahead for the moment.

Senator Thurmond?

Senator THURMOND. Thank you, Mr. Chairman, I ask unanimous consent that my statement be placed in the record following your opening statement.

Chairman TOWER. It has been placed in the record.

Senator THURMOND. I have a number of questions here, Mr. Secretary. I am just going to ask you one now and then if I get back—I have had conflicts this morning and I have conflicts this afternoon, I would like to propound these questions. If I don't, will you kindly answer them for the record?

Secretary WEINBERGER. I will be glad to.

Senator THURMOND. It appears that action taken by the House was based mainly on the fact of basing mode, from what I understand. Although the production money was taken out, it was done on the theory that they are not satisfied with the basing mode.

Would you mind telling us just what experts recommend this particular basing mode? I thought it would be well to show the scientists or experts who did recommend this particular basing mode.

Secretary WEINBERGER. We started quite a way back with the first Townes panel, which suggested that we should go to a method that would take advantage of the phenomenon of fratricide. Then there was an examination of the whole matter by the Defense Science Board, sometimes called the second Townes panel.

There was also a very thorough examination by the Air Force itself as well as by people that they called in.

The consensus of all of these was that CSB was the most survivable, most enduring method that we had consistent with the constraints under which we operated.

Dr. Keyworth can supplement this if he will now.

Dr. KEYWORTH. The problem was approached by all to achieve survivability.

I would like to particularly emphasize, with regard to the recommendations made by the Townes committee, and which will be given to this entire committee, that there was a consensus that dense pack, the closely spaced basing mode, was the most survivable method.

In fact, although we have come down a very complicated path, even perhaps a somewhat soiled path at this point, I think within the technical community there is a consensus that dense pack is the best basing mode.

Senator THURMOND. Some of the public are asking questions about Dense Pack, this particular basing mode. I am strong for the missile

and I am going to back the administration on this. The public is asking questions about this basing mode.

Do you have reason in your own mind to be satisfied that this is the preferable method?

Dr. KEYWORTH. Yes; I certainly do, Senator.

Senator THURMOND. On what do you base that?

Dr. KEYWORTH. The fact that it is survivable, the fact that we have not been able to identify a single threat which will threaten our confidence in the survivability. There is no known threat that the Soviet Union can deploy today or can even deploy in the finite future that will threaten the system. That is why I feel so strongly about its being survivable.

It is complex, Senator, and that has been the fundamental problem. We have not had adequate time to describe the system to those who are responsible for evaluating it and voting.

Senator THURMOND. I feel if we are going to get any disarmament agreements, we have to go forward with this MX.

In other words, I think the Soviets have got to get the message that we are not going to continue to be second as we are now.

Is that your feeling?

Dr. KEYWORTH. Very much so.

Secretary WEINBERGER. Absolutely.

Senator THURMOND. I won't take more time at this time, Mr. Chairman.

Chairman TOWER. Senator Exon?

Senator EXON. Thank you, Mr. Chairman.

Mr. Secretary, I am curious to know how the term Peacekeeper evolved as the name for the MX.

Secretary WEINBERGER. I can treat the entire history. It evolved from the name of the weapon that Judge Clark's grandfather used to preserve the peace in his frontier community many, many years ago. The President and he decided that since the purpose of this missile is to regain our effective deterrent to war, that would be both its proper name and the result of having it.

Senator EXON. How long, to your knowledge, has Judge Clark been an expert on the weapon system?

Secretary WEINBERGER. I don't think there is any suggestion that any of us are experts. You asked for the origin of the name. I tried to give it frankly and as quickly as I could.

Senator EXON. The point is, Mr. Chairman, and I don't wish to be overly critical, but it seems to me that the testimony we have heard this morning seems to be in direct opposition to the preponderance of testimony that is on record in this committee with regard to what we are doing on a very, very important step for a whole host of reasons which concerns many of us on this committee. This Senator has, as you know full well, always supported every penny of request which has come from the Pentagon with regard to the research and development on the MX.

Many of the questions that I have in my mind have been asked by my colleagues previously, but let me follow up on some of these to try to establish the record further about our concerns.

Let me first say that I could quote from the record on a number of cases, but probably it is best exemplified in the testimony of Febru-

ary 15, 1981, by then Deputy Air Force Chief of Staff for Research, Development, and Acquisition, General Burke:

> You can look at impervious silos with more concrete or putting them in south slopes of mountains and no one has ever been able to develop confidence that we could do that.

Then I cite the testimony of Dr. Keyworth in front of the committee this morning and I quote:

> We don't need any technical breakthroughs to achieve super hardening against such a threat or even against reasonable future increases. In fact, super hardening will use reinforced concrete engineering techniques that represent a less difficult challenge than involved in many of today's commercial construction projects.
>
> Moreover, recent experiments have confirmed our ability to build these super hardened silos as proposed.

In the testimony today Dr. Keyworth has indicated that he basically has been associated directly with this program for 1½ years. Since we are talking about credibility, which we all need very badly if we are going to proceed with this proposed Dense Pack basing mode, since you have worked on it 1½ years. Dr. Keyworth, are we to believe you or are we to believe all of the testimony we have had to the contrary from a whole host of people that we consider experts also, that places those of us who have to make these decisions in a deplorable position?

Dr. KEYWORTH. Senator, I think you have just defined the evolution of a solution. The fact is that this was not the first solution that came up. It was the one that resulted from many years of work by many, many different people.

The fact that a different position was held by General Burke 1½ years ago, for instance, does not in any way counter the fact that General Burke has been a very close adviser to me and to my office in helping us make the recommendations that we made.

The knowledge and the system as it has developed over the past year was simply not before the reviewers nor on the table 1½ years ago.

Senator EXON. General Skantze wishes to comment. I would like to hear his statement.

General SKANTZE. Let me comment on that. Since I was not party to everything that went on before, I tried to track back through and literally see if we pulled a rabbit out of the hat, so to speak. If you go back, and let us start where we left off, we hardened the Minuteman silos to one to 2,000 p.s.i. in the early seventies.

That is where our system stopped on hardening for ICBM's, although the technology kept proceeding. The technology went forward with more and more tests concentrating more on very static kinds of hardness and about the same time original MX basing modes were evolving.

As we got into 1978 and 1979 the Defense Nuclear Agency determined that actually there were hardening schemes that weren't just more and more a mass, but by utilizing a fair amount of steel you could build resilience into silos and they could take large overpressures for small periods of time on impulse and bend but not break.

That data became available in a substantive form in late 1981. I think it is fair to say, why wasn't there a conjunction of that with what was going on in the MPS basing scheme?

I think one of the reasons was that the MPS scheme was based on multiple aim points with low levels of hardness. So the two things did not necessarily come together at that point.

I think it was only after the first of this past year, looking at other concepts that data came together in a form which then made possible the idea that you could not only achieve the high hardness, but then you could closely space the capsule and that would take advantage of fratricide.

So that conjunction which brought about this possibility only happened after the first of this year.

Senator EXON. Thank you.

General Vessey, let me ask you to comment as Chief of Staff on what seems to be a perception, I think to a large extent verified by your response to questions from Senator Nunn, that there still remains widespread concern, as I understand it, among the military leadership of these United States, notwithstanding the right of the Executive and civilians to overrule, which is proper in regard to what the Secretary said.

Is it not true that the basing system now proposed has a higher degree of skepticism from many high ranking military experts in this country?

General VESSEY. I do not think that I can answer about the high number. I can tell you about the views of the Joint Chiefs of Staff, and they are, in fact, the highest ranking military people in the country.

The Chiefs examined this issue over a relatively short period of time because, as Dr. Keyworth pointed out, the basing scheme developed over a fairly short period of time. The Chiefs got into it later than the developers of the basing scheme.

As has been alluded to by many of the witnesses and some of the Senators here, it is a very difficult scheme to understand, a very difficult one to explain, and there was skepticism on the part of three of the Chiefs that all of the technical questions had been answered to their satisfaction.

Now it is fair to say that even from the time the Chiefs made their recommendation more knowledge has become available on the technical aspect of the basing scheme.

Senator EXON. General, thank you very much.

I have one last comment and then a question if any of you care to respond.

I for one don't believe that the United States should be brought to the position by the President of the United States, who is the Commander in Chief, or anyone else, that just because he makes the decision, that is the only option we have remaining. I am concerned about the survivability of the Dense Pack system.

I think maybe we made a mistake when we wrote out the west with the political decision, at least before the President was President, that the MPS basing system should be eliminated. I simply quote on February 18, 1981, the testimony by General Ellis wherein which he said:

If we had the mobility in the Minuteman force that we are building into the MX force, we don't need an MX force.

It seems to me, gentlemen, that there are some of us who still question whether or not the Dense Pack system is all that it has been sold as by the President of the United States and I think that still remains a legitimate concern.

Secretary WEINBERGER. I would like to comment on that, since the MPS system was canceled by the President not for any environmental or political reasons.

It was canceled by him because he concluded, and I think absolutely correctly, that it would not be survivable because there were 4,600 hardened silos in which 200 missiles would be deployed at a cost of over $48 billion.

The Soviets had and have the ability to destroy all those 4,600 silos with very little additional effort on their part and no change in their technologies or aiming systems or any of their procedures.

Under those circumstances it did not seem very sensible to proceed with a system which did not offer any greater protection than the Minuteman system we already had in place. We did search for a better system.

I have no doubt that it is possible for any system that is proposed to have objections raised. Indeed, the Congress forbade us from considering a couple of methods before we even had an opportunity to develop any recommendations on them. That I think is indicative of the fact that any system that is proposed is going to have people who object to it.

Certainly you don't, but many people object to any deployment of any missile at all. I know you are clearly not in that category. There will always be a lack of public support for these basically unpleasant, difficult and rather horrifying equations.

We have to maintain as close to deterrent capability as we can.

Senator EXON. I thank the Secretary and I thank the panel.

General VESSEY. Could I add one thing to that answer?

Senator EXON. My time is up, but if the chairman would like to have you, I will be glad to.

General VESSEY. Without regard to the merits of MPS or CSB, there is one thing I would say, without speaking for General Ellis, and that is that knowledge has changed in the interim.

I would say to you now that we need the MX because of its capabilities and the answer that General Ellis gave without regard to basing schemes no longer applies. We need the accuracy of the MX.

Senator EXON. General, we needed it then also, did we not?

General VESSEY. In retrospect, I would say yes, we did. But I am not sure what was available at that particular time.

Senator EXON. Thank you.

Chairman TOWER. It is the intention of the Chair to continue until every Senator has had his turn at questioning, then either go to the technical briefing at that point or reassemble the committee tomorrow for that briefing. I would certainly hope that we would have 100 percent attendance for the briefing.

Senator Jepsen?

Senator JEPSEN. Thank you, Mr. Chairman.

I will proceed with dispatch with respect to the remaining people who would like to ask questions.

I have one technical question and then I would like to submit some questions, if I may, to be answered for the record.

Chairman TOWER. I might say at this point, Senator, by no means is this the last hearing on the subject. There will be others.

Senator JEPSEN. What portion of the $26.4 billion budget for this program is involved in silo hardening research and development?

General SKANTZE. It is a small portion. It is less than 6–10 percent.

Senator JEPSEN. What proportion for actual construction?

Secretary WEINBERGER. $2.8 billion.

General SKANTZE. That is for all of the construction.

Secretary WEINBERGER. $2.8 billion for all the construction, and I think it is about $1.4 billion for the R&D silo hardening.

Senator JEPSEN. $2.8 billion for all construction and $1.4 billion for the, specifically for the——

Secretary WEINBERGER. R&D on the silo hardening.

Senator JEPSEN. For the cement work?

Secretary WEINBERGER. And the testing.

Senator JEPSEN. Thank you.

It has been stated this morning time and time again that we need more time to pursue this issue. We need more information. I commend and congratulate Chairman Tower for his statement in the amendment that "This amendment will also guarantee Congress and the American people sufficient time to study seriously and debate fully the many issues surrounding the MX and the proposed basing mode before committing the United States to a further investment." I think that is on target.

I believe this is the most serious decision on national defense that we will make.

I also believe that the eyes of the whole world are upon us not just within, but from without.

I also believe there is general agreement by those who know, but a lack of understanding, information and education given to those who have not had the opportunity to have the facts and background that the ICBM leg of our triad, the land-based leg, has the most reliable command and control network.

Its nearly 100 percent alert rate on a continuous basis, its short time to target, its extreme unparalleled accuracy are all key. We ought to educate the American public more about this.

One of the things that I have found is that the general public and the constituents in my State are very strong supporters of defense. They haven't changed their minds, but an increasing number of them are questioning not whether we ought to pay for it now, but how do we pay for it?

It is a political question of paying for what we all want and what we all know we should have.

Talking about world peace, I would like to ask this general question which is in a little different vein than we have been following. This is a peacemaker and it is in the interest of providing peace not only for our people, but for the people of the free nations of the world.

Has there been any thought about letting the world, which will benefit from this peace, have an opportunity to pay for part of it?

I am serious. You know, Japan acts with great trepidation when we talk about missiles, but they bask in the security of our defense and

then they economically come around and hit us in our solar plexus on trade with this country when we have high unemployment. I think maybe they should have an opportunity to have a piece of the action and we should seriously pursue this.

If the MX missiles based, as I understand they will be or proposed to be, will, indeed, keep world peace, why then doesn't the world share that with us?

Secretary WEINBERGER. I don't think it would be fair to say it has been investigated, but I think there would be a substantial degree of skepticism, particularly in view of the problems involved, even placing it at U.S. expense as counter to the SS–20, in the intermediate range forces in the NATO area.

The United States has maintained, as you say, the strategic umbrella over the free world since the end of World War II. I certainly do not sense in any of the discussions I have had with defense ministers or heads of state any desire or willingness to share in the continuation of that burden.

I have no problem at all in exploring it, but but I would not want to arouse any expectations that it might be eagerly agreed to.

Senator JEPSEN. I appreciate that. I was not referring to deploying weapons in their countries and on their land. I am talking about those 100 we are proposing to put out in Wyoming. It doesn't cost anything to ask. There is a joke about standing in the corner and asking. You might be surprised at what happens.

Mr. Chairman, before my time expires I want to strongly emphasize again the need for the witnesses, for this administration, to creatively present this program in such a manner that defers to the intelligence of the American people. I have had numerous visits to my home State and I must say this proposal is viewed with great skepticism.

I would point to the fact we have three Democratic Congressmen and three Republican Congressmen from the State of Iowa. Last night all six of them voted for the Addabbo amendment which oppose production funding for the MX.

As an elected official I do have a responsibility to clarify issues for my constituents as well as represent them in the Senate. I have tried to defend the President on this issue, but, Mr. Secretary, unless the President and the Department of Defense embark on a sustained educating and selling campaign around the country, I fear this proposal is in serious trouble.

Secretary WEINBERGER. We are fully prepared to do that, sir. We will be delighted to have advice and suggestions because in all seriousness I think it is necessary. I don't disagree at all.

We do have the intelligence community restraint. Within that we certainly want to embark on the education efforts needed to bring home to the American people the dangers that they face. That danger has never ceased over the last 21 years is clear. No matter what happens, whether SALT negotiations or detente, the Soviets have never ceased adding to their forces and they are adding to them right now.

Senator JEPSEN. Thank you, Mr. Chairman.

Chairman TOWER. Mr. Levin?

Senator LEVIN. Mr. Chairman, I am afraid that Dense Pack does not close the window of vulnerability, but opens a window of incred-

ibility. For instance, the President says that he wants to reduce the vulnerability of land-based missiles. Yet he proposes to put MX in a fixed basing mode.

The President says he wants arms control and arms control treaties that will not undermine these that are already signed. Dense Pack violates SALT I and II and ultimately could lead to the abrogation of the ABM Treaty.

The President says that the Soviet Union spends more on defense than we do. A comparison of the amount spent by us and our NATO allies with what is spent by the Soviets and their allies show that we spend more.

The President says the Soviets are ahead in virtually every measure of military strength. Yet the former and current Chairman of the Joint Chiefs say they would not swap our military capability for that of the Soviets.

The Secretary of Defense says that we have virtually stood still over the years in improving our strategic capability. Yet in the 1970's we deployed 550 Minutemen III multiple warhead missiles and then doubled the destructive power in more than half of these.

We also improved the guidance systems on these missiles to make them more accurate. We improved the avionics of the B–52 bomber which increased its ability to penetrate. We deployed the short-range nuclear attack missile. We began the air-launched missile program and the Trident submarine program.

Interestingly enough we added more strategic nuclear warheads overall to our arsenal since 1970 than the Soviet Union added to its strategic arsenal. I don't consider that virtually standing still.

The President says we are in a position of nuclear inferiority to the Soviet Union. Yet he unilaterally dismantled our Titan ICBM's, which were our most powerful nuclear warheads and which contained more than one-third of our land-based megatonnage, doing so not for safety reasons, according to testimony before our committee, but for relatively small budgetary considerations.

On top of all this, we can add the comment made this morning that there is no room, and I am quoting Dr. Keyworth, for disagreement about Dense Pack among those who have studied the problem carefully.

I must tell you, Doctor, I find that to be an arrogant comment. The Joint Chiefs of Staff I presume have had time to study the problem carefully. So did Dr. Charles Townes who headed the two panels directly involved in making MX basing recommendations and who sent a letter to the Secretary which, may I state, Mr. Secretary, has been released to this committee already. That letter expresses doubts about Dense Pack.

Mr. Secretary, you indicated this morning you would check with Dr. Townes as to whether or not he would have any objection to it being released. The letter already has been released to us.

Secretary WEINBERGER. I think the release is not the word. It has been obtained.

Senator LEVIN. It has been provided to me officially by the Defense Department's Legislative Liaison Office.

Secretary WEINBERGER. It has been obtained.

Senator LEVIN. DOD gave it to me formally and officially yesterday.

Secretary WEINBERGER. I just wondered if you have completed because if you have——

Senator LEVIN. I have not. I want you to know the Legislative Liaison Office for DOD delivered it yesterday. I would hope that all members of this committee and all Members of the Senate read this letter.

Secretary WEINBERGER. Then you should have no doubt whatever that the letter does not properly characterize it as you have characterized it.

Senator LEVIN. I have not characterized this letter yet. I am about to do that now.

The optimism which is expressed today about Dense Pack's effectiveness and survivability is very, very much in contrast with this letter. This letter raises serious technical cost and scheduling questions. It challenges the wisdom of pursuing Dense Pack.

I can't quote from this letter because it is classified. That is my conclusion after reading the letter. I would hope that all members of this committee would agree with me.

I must say that what I hope would greatly disturb my colleagues in the Senate and my colleagues in the House is the comment that there is no room for disagreement, no room for disagreement, Dr. Keyworth tells us, about Dense Pack among those who have studied the problem carefully.

There is plenty of room for disagreement. Dr. Townes and the Joint Chiefs of Staff have provided plenty of very sound evidence that there is such room for disagreement.

Now, Mr. Secretary, my question to you is as follows: The President has tried to sell Dense Pack to the country mainly in a speech by talking about the military balance. He suggests that in virtually every measure of military power the Soviet Union enjoys a decided advantage.

Do you agree?

Secretary WEINBERGER. Yes; I do.

I disagree incidentally, and I only mention this because I don't want you to have the feeling that silence gives consent as has been so often the case in the last few years, I disagree with almost everything you have said.

Senator LEVIN. Would you tell us in how many measures of military power the Soviet Union enjoys a decided advantage?

Secretary WEINBERGER. Since we are talking about the MX, they start with the——

Senator LEVIN. Will you give us the number?

Secretary WEINBERGER [continuing]. Start with the ability to inflict very, very heavy damage, 95 percent practically, taking out the Minuteman on the first strike which would leave us with a substantially impaired capability of maintaining the kind of response that is required by deterrence. We will start with that one.

Senator LEVIN. Can you give us the number of measures of superior military power the President was conferring on the Soviets?

Secretary WEINBERGER. With respect to the strategic?

Senator LEVIN. How many measures of military power do they have and how many measures do we have?

Secretary WEINBERGER. The figures have been published many times. Their tanks, armored personnel carriers, submarines, artillery pieces,

numbers of divisions, in all of those things they have a degree of superiority that we have to deal with.

Senator LEVIN. Are we ahead in warheads and bombs, SLBM's, long-range bombers, strategic and tactical airlift, and tanker aircraft?

Secretary WEINBERGER. In tactical aircraft they are ahead. In long-range bombers they have done modernization and they are developing a new bomber as well as having the Backfire which the SALT Treaty did not even recognize as a strategic instrument.

There are a number of other areas that we can all go into now or at a later time in which they have built up advantages that make it necessary for us to take the steps that we are recommending, if you will permit me to finish, to restore the deterrent effect.

We are not trying for military superiority. We are not trying to get one more tank than they have or one more armored carrier or one more division.

We are trying to restore the strength which we neglected during the decade of the 1970's and even a bit before then. We have started in 1981 on a path that will enable us to regain the deterrent strength necessary to maintain the peace.

If we interrupt our process on that path in ways that were suggested by the House yesterday, then I think the threat to our deterrent will increase very materially.

Senator LEVIN. Mr. Secretary, are you able to tell the committee in how many measures of military power we are ahead and how many measures they are ahead? The President has said in virtually every measure of military capability they are ahead.

My question to you is do you agree with that statement?

Secretary WEINBERGER. Yes; I agree.

Senator LEVIN. I want to know numerically, since he raised the question about virtually every measure of capability, I think the American people are entitled to know how many measures of military capability he is referring to and in how many are they very significantly ahead and how many are we ahead?

Secretary WEINBERGER. I have outlined many of the ones in which I think they are ahead. I think we have substantial capability and great strength.

I disagree, incidentally, with your characterization of the former Chairman's statement that he wouldn't swap military capabilities. He said many times that he would swap their missile system, but he would not swap for their men or manpower. That of course is a statement with which anybody who is familiar with the two systems of the countries would agree.

Senator LEVIN. Mr. Secretary, by the statement that we won't undermine SALT, are we saying the same thing that we will comply with SALT?

Secretary WEINBERGER. What the President has said many times is that we will take no measures during this period of time that would undercut the provisions of SALT II, while the negotiations to which he attaches such enormous importance at Geneva are pending.

Senator LEVIN. Is that the same as complying with SALT II?

Secretary WEINBERGER. I don't think so. It is a statement which speaks for itself and does not need any elaboration.

Senator LEVIN. If it is not the same as saying we will comply with SALT II, I think it will need a great deal of elaboration. Apparently you just indicated it is not the same.

Mr. Secretary, once a missile is in a Dense Pack silo do you generally intend to move it other than for major maintenance or repair?

Secretary WEINBERGER. I guess I did not hear that, Senator.

Senator LEVIN. Once a missile is in a Dense Pack silo do you generally intend to move it other than for major maintenance or repair?

Secretary WEINBERGER. It could be moved if the deception option were adopted and additional silos were prepared. Then it could be picked up and moved to any empty silo.

Senator LEVIN. It it your intention to move it?

Secretary WEINBERGER. If we go to a deception option, that is how it would work.

Senator LEVIN. Under the present proposal?

Secretary WEINBERGER. Under the present proposal it is designed to be able to have that option added to it. If the Soviets do not take actions that require that kind of response, then we wouldn't employ it. If they do, then we would.

If that option were adopted, then it would be quite possible, and indeed planned, to pick it up from its silo and move it for other than maintenance purposes.

Senator LEVIN. My time is up. Thank you.

Senator QUAYLE. Almost everybody has dealt with the House vote yesterday. I would like to dwell upon it and try to extract from you your interpretation. I would assume very few of those 245 who voted against MX had a briefing on the matter.

Furthermore, during this past summer the House of Representatives voted in favor of production and procurement of MX. Yet just yesterday they overwhelmingly rejected it by 69 votes.

Why do you think that happened?

Secretary WEINBERGER. I really don't want to try to psychoanalyze the results. We think it is a very unfortunate result. What that particular vote did was to stop the production, disrupt the timing, make it more expensive, and cripple our ability to get the missile on line at the time we think it is urgently required at the end of 1986.

I don't pretend to know why that was. I suspect that what happened was that for every ground-based deployment mode that has been suggested it is perfectly possible to pose a number of objections.

It has been said that each solution has about 17 percent of the House supporting it. Each solution is mutually exclusive. So you have a very great deal of difficulty in proposing a solution which must get the support of a large number of the Members. But that overlooks completely the fact that they weren't even voting on the deployment mode.

They were voting only on whether to continue the production, with or without a fence. By voting to stop the production, should that result be sustained, and I very much hope it will not be, they will have delayed the time when the missile can be ready and make it much more expensive. And to serve really no purpose whatever.

That is why I very much hope that the Senate will not sustain that result.

Senator QUAYLE. Let me add my 2 cents worth. A couple of the Senators talked about the credibility issue—that after 12 years and 30 dif-

ferent basing modes all of a sudden we have arrived at Dense Pack. I say this is a perception.

In all due respect to you, I do support your strategy to return national defense spending to its No. 1 priority where it belongs, but I believe part of that vote reflected a tremendous change, a change of support of 69 votes in the same Congress that adjourned for the elections. There is a definite perception by the public that the Pentagon and military spending is out of control.

That is a perception that is not only with certain people that deride us, that have taken an active high profile role, that is a perception I find time and time again in Indiana talking to conservative businessmen or talking to housewives or what not.

I can only say that from the time of 1980 to right now my mail has absolutely gone 180 degrees in the opposite direction. I was elected with your boss on a very strong prodefense constituency. I want to work to try to keep it there, but the perception is there, sir.

It is a perception that things are out of control, there is no real handle on it. We look it as a budgetary matter where you have a $200 billion deficit that we are facing, yet we are talking about not only MX, but talking about two bombers, we are talking about Trident, we are talking about the D–5. We are talking about everything.

And they say, wait a second, something has to give. I think there is a latent message. I hope that there is some analysis of what that means because it is a sharp deviation in the same Congress in a very short period of time.

That is a perception that I see. I know that you will think it is unjustified. Perhaps you might state what are we going to do about it to try to turn it around?

Secretary WEINBERGER. It is very easy to turn it around. You can go back to the requests of the previous administrations and conclude that the United States lacks the capability and the will and the resolution to regain a sufficient deterrence to maintain the peace.

You can hope through negotiations you might be able to salvage something. I can say right now that I don't think you will salvage anything at all. I think you will subject yourself to nuclear blackmail.

With respect to the Pentagon being out of control, I have heard that cliche uttered from time to time. I would like to know what is meant by it.

The President submitted a 5-year budget program for the regaining of our military strength in February, 1 month after he took office, having campaigned to do exactly that. Out of that 5-year program $41 billion has already been removed by the President himself in response to some of the concerns you have mentioned.

Another $53 billion will be saved over time in that program by the savings and economies and management improvements that we have instituted in the Department and by the cancellation of 48 separate programs and drastic reductions in 12 others.

If that is out of control, I don't really understand what the definition is.

One of the programs that has been drastically reduced is the one we are considering this morning, the MX system. We reduced a program that was designed to cost $48 billion and would have provided no additional security to a program that will cost $26 billion

and will provide the most survivable mode that we have been able to find yet.

I don't think any of these things constitute the Pentagon's being out of control.

What I think has happened and what always happens in a free, open and democratic society, is that the people do not like defense expenditures. They never have and they never will.

For a time, for 1 year or 2 they might get concerned and alarmed, but after that the steam runs out of the desire to maintain the degree of direction necessary to keep the deterrent which we were able to do in the fifties, which we started to give up in the sixties, and which we gave up in the seventies. Now we have the enormous task of rebuilding the entire strategic deterrence at one time. In addition, we must also regain our conventional capability if we are not to have as the only option the need to move to nuclear escalation.

So if there is a perception that the Pentagon is out of control, I would like very much to have a definition, and I would like very much to know what things we should give up.

Should we give up trying to regain the strategic deterrence? Should we give up the submarine that can give the accuracy and yield that will destroy Soviet targets? Should we give up the airplane which is the only weapon we have that can penetrate Soviet air defense? Should we give up the missile and say we should not have a ground-based system? Should we give up our commitment to NATO, our ability to defend the continental United States.

What is it we should do to put the Pentagon back in control and pick up the 69 votes that voted to make the missile so much more expensive than anybody says is necessary?

Senator QUAYLE. I don't know the answer to that. I know there is a political problem we have in this country and a political problem certainly that the Department of Defense has. I would think the House vote would illustrate there is a problem we are going to have to focus on.

Secretary WEINBERGER. I don't doubt for a moment there is a political problem. One of the ways of dealing with it is to present the facts or at least the other side of the argument as vigorously as we are trying to do.

Senator QUAYLE. What kind of time period do you think the Congress should be allowed in which to make a decision on whether to ratify or reject Dense Pack?

I agree that the Congress at this particular time, 2 weeks after the decision has been made, is ill equipped to make that decision either in favor of or against the basing mode of Dense Pack.

Secretary WEINBERGER. The time frame that Congress chose for it last year was through March 15, a period of a certain number of legislative days after the President's December 1 deadline.

He met that. He brought his recommendation in on November 22. It seems to me that that existing time is a perfectly proper and appropriate time. It is the timeframe picked by the Congress itself.

Senator QUAYLE. March 15 is the time to make a determination whether to go ahead with procurement, is that right? If that is the case, why are we pushing to go ahead with procurement now? Why not wait until March 15?

Secretary WEINBERGER. We are simply asking to continue what was done. It was Congressman Addabbo who moved to change the situation. We are not asking for a vote on the MX basing mode at all.

What we are asking for is a continuation of what the Congress had previously agreed to. What happened yesterday was that that pattern was changed.

Senator QUAYLE. In other words, should the Congress then by resolution or Department of Defense authorization bill or some other vehicle approve and should both Houses have to approve Dense Pack by March 15? What would be your desire in that respect?

Secretary WEINBERGER. Obviously it is entirely a matter of congressional decision. Our point is that we need to have the authorization and our request is that we be given the authorization to proceed on a pattern that will enable us to meet the original initial operating capability of 1986.

We can do that by March 15, which was the date picked by the Congress.

Senator QUAYLE. So you don't have any problem with delaying procurement and production money for MX missiles until March 15?

Secretary WEINBERGER. There are different ways of phrasing it. The authorization should be continued in our opinion as it was previously recommended by the committee and then any fence or any hold on that ought to be decided by the date previously chosen.

I think they work out to March 15, based on the number of legislative days.

Senator QUAYLE. Again, you don't have any problem with deferring the decision on the basing mode and not going ahead at this time with the procurement and production money?

Secretary WEINBERGER. We are not even asking for a decision today. What we are doing today is responding to the chairman's very proper request to start discussing the recommendations of the President.

We, of course, are perfectly willing to abide by any decision that the Congress makes as we have done now with two or three basing mode considerations. The sooner we can get the matter resolved and proceed to the things that are necessary the sooner we can regain the strategic balance that is necessary to maintain the deterrence.

Senator QUAYLE. Thank you, Mr. Chairman.

Chairman TOWER. Senator Denton?

Senator DENTON. Thank you, Mr. Chairman.

Mr. Secretary, gentlemen, I would like to identify first with the remarks of the chairman to the effect that there was a potentially enormous decision made yesterday. I believe it was made, considering its importance, in a cavalier fashion as he suggested, particularly in view of the lack of hearings.

I find it tragic that Congressmen and Senators spend more time worrying about whether a given defense base, shipyard, et cetera, is taken away from their State than they do contemplating whether or not we should proceed with the program such as the MX or hearing about the dense pack mode and so forth. I consider that a potentially fatal propensity.

I would also like to identify with the Secretary's statement and with the statement by the other gentlemen. I think they represent good will efforts to resolve extremely complex questions and they

point the way generally toward the best solutions which the Nation is capable of coming up with in resurrecting our deterrence and perhaps going further; namely, helping General Rowny and the other negotiators to achieve that second road to peace, as the Secretary referred to it; namely, reductions in arms which is a more liberal and antiwar aim than that which is being propounded by those who represent another problem to us in political terms; namely, those who are recommending a nuclear freeze which preempts the entire discussion of whether the basing mode for the MX is OK or not OK and it is something that has not been mentioned this morning and I don't intend to spend any particular time on it.

I would like for the record, since all the Senators have questioned some of the things that I find troubling, such as the imbalance, I would like to say for the record that the imbalance constitutes at this point such facts as 95 percent of our land-based missiles, which represent the best we have in a counterforce capability, can be destroyed in a first strike with 25 percent of their attack missiles; that is extremely relevant in terms of not only modernity, but in capacity, capability, effectiveness that 75 percent of the Soviet missiles are less than 5 years old and we have Minuteman III designed in 1967, admittedly MIRV'ed; we have a 20-year-old Titan program, and I do think that the communications problem which they dump on you by saying you have to come out with more declassified versions of presently classified information is a bit unfair because I think there is a mountain of already unclassified information available to justify at least 98 percent of the position that you gentleman are taking this morning.

I must admit that I, myself, and I say this because I want to be corrected, do have doubts about the total validation of the Dense Pack basing mode. I think the chairman has made reference to that.

I have said that I believe that we should develop the propensity for alternatives in case we find in further validation that we must make alterations or even that we might choose other options.

However, it appears it is a good bet. It appears to be the best way of meeting the deadline that is imposed that we have a basing mode program and I would hope that that be corrected, if it is not a generally correct impression, that we should continue with the modest approach that you have recommended to look into and devote money to the development and further validation of the Dense Pack program.

You mentioned the fact that we have a political problem, which is very true. My most conservative constituents are sending me cartoons in which Dense Pack is presented as a "dunce pack." This does not alter my comprehension of the matter nor does it alter my intent on how I am to vote on the matter on the floor.

But it does emphasize the truth of the fact that we have a great gap of understanding here. The gap between your success in getting what you want and the chairman getting what he wants, not only includes the nuclear freeze thing which preempts the discussion of whatever missile or weapon, but the social versus defense spending which means that folks don't understand how closely we are to the day when it will become thinkable for the Soviet Union to attack and destroy the majority of the population of the United States, and unless we come up with something like the MX, we have two answers, as I understand it.

We can, as some columnists have suggested, go back probably and destroy a great many, tens of millions of Soviet citizens with what we have left in our submarine force. For example, we could adopt in desperation a launch on warning strategy which we now do not have and which would be destabilizing, in the true sense of the word.

I would like to clear up one major problem that seems to exist among those who are going for this nuclear freeze or do not understand what you are trying to propound and you correct me if I am wrong.

They seem to be thinking or perceiving perhaps from rhetoric that was mischosen or perhaps from quoted out of context statements by authorities, that we are adopting a fight and within nuclear strategy.

I believe that is not the case. I think you have mentioned the President, a great communicator, himself, might have done better in expressing something which I want to express before going to a question.

I think you said, Mr. Secretary, that we are really actually trying as a goal to regain a sufficient degree of deterrence to make us comfortable and, second, beyond that, achieve success in an armed reduction agreement which is satisfactory to both sides and is truly OK.

That has put us on two roads to peace. I would see it, unless we do something like the MX, unless we come up with filling the gap in defense, as the road to survival, not road to peace, but it is also the road to peace in that they won't attack us if we have the deterrent.

On the other hand, the arms reductions are not a way to peace, but a way of reducing some of the tensions, instabilities, fears that people have regarding this side and that side having too many arms.

Here is the question about President Reagan. In his talk of November 22, he showed the red and blue columns or bars, if you will, and he has been criticized for talking about not missiles or warheads, but missile launchers. I think there is a pretty good reason for his choosing the latter.

Nonetheless, this is what was left with the American public and I think it tended to inject a misunderstanding which prevailed and that, here is the red bar, here is the blue bar. You look at it, well, there is not that much difference.

The point that the great communicator didn't make, and I think this is the first criticism I will ever hazard against his communicating method, he implied that that blue column is what you have to go back with. That implication was left. You don't. That is what you possess as a peacetime arsenal.

You can go back with what is left of that blue column after you have had smashed out of it by that red column and there is not much of that there, gentlemen.

Is that correct or not?

Secretary WEINBERGER. I think he was trying to respond to the argument made so frequently during a lot of the freeze debates. That is, that each side has about the same number of warheads and each side can blow each other up. That is a very simplistic measure of warheads.

The President was trying to point out that even that was not true. The point you have made is a very valid one. The only thing you can look at is what you have in the way of effective retaliatory capability.

That is what is left after that first strike comes in. That is where we need to do some things quickly to regain an effective retaliatory

capability or subject ourselves to either subjugation or nuclear blackmail.

Senator DENTON. In this jungle of technical argument, isn't that a point we should stress? Isn't that something that a second grader could understand? Yet the public does not understand it.

Secretary WEINBERGER. We have debated the point many times in many forums, and I hardly make a statement in which I don't make that point. We will continue to do so because it is the essence of the deterrent capability. It is the only way that we can remove the President from the horrifying alternative that you outlined a few months ago.

Senator DENTON. It is not criticisms of what you have or have not done. I am asking if that is not something that you do?

Secretary WEINBERGER. There are not very many who seem to be willing to make the argument in the face of what is, as you pointed out a moment ago, a thing that is very easy to ridicule, very easy to criticize and rather complex. But, it is essential that more than one or two voices be raised to indicate the nature, size, and extent of this threat, the fact that it is still growing and that we have to do some hard and unpopular things that people would much rather not think about, if we are going to maintain deterrence.

Senator DENTON. Thank you, Mr. Chairman. I have second-round questions.

Chairman TOWER. Senator Brady?

Senator BRADY. Thank you, Mr. Chairman.

I am sure, Mr. Secretary, you don't need any lectures from me, being the 100th Senator, on politics, but I do have to say that in the 8 months I have been here that the Dense Pack basing mode is in deep political trouble. I am sure you recognize that.

I think perhaps this trouble that it is in comes from somewhat of a misunderstanding. I have tried to write down in simple-minded English, and it may be too simple, what I have heard over a period of time. I wonder if I can read it to you and get your reactions.

I have written Dense Pack is a good strategy, not a sure strategy, at the same time the best strategy, perhaps the only strategy we are able to employ at this time.

Secretary WEINBERGER. I agree with that, Senator. We have been hunting for alternatives. We have been asking critics for their alternatives.

In view of the accuracy that the Soviets have obtained from the technology they have taken from us, there is no invulnerable system.

We understand that completely. That is the best of the systems that we have been able to develop, and we think it is survivable for many years, as many years as Minuteman has given us protection, and Minuteman turned out not to be invulnerable either.

There is simply no invulnerable system. This is the very best of all the alternatives. We are confident it will give us survivability well into the next century. That is the essence of defense. I would agree wth your statement.

Senator BRADY. I think therein may lie part of the political problem that when we get going down the line we imply that there is a sure decision.

Secretary WEINBERGER. No.

Senator BRADY. I think the American people should face up to the fact that what we are being asked to vote on is the best we can do at this time. When you talk about something in a gray area you run into trouble.

Secretary WEINBERGER. The alternative is endless delay and not doing anything at all and leaving that gap not where it is, but widening it all the time. That I find a totally unacceptable alternative.

Senator BRADY. I don't have any further questions.

Chairman TOWER. Mr. Byrd?

Senator BYRD. Thank you, Mr. Chairman.

Gentlemen, you have testified I believe that three of the four members of the Joint Chiefs of Staff did not recommend the Dense Pack basing mode. Is that correct?

General VESSEY. Three of the five, Senator, recommended that we not do it at this time. That was the recommendation. Their recommendation was going ahead with an interim basing scheme while the technical difficulties or uncertainties that they perceived were resolved.

Senator BYRD. Three of the five recommended against going ahead with the Dense Pack basing mode at this time?

General VESSEY. Yes, sir.

Senator BYRD. Was there a consensus in the Joint Chiefs of Staff on another basing mode?

General VESSEY. There was not because the other members of the Joint Chiefs recommended going ahead with closely spaced basing at this time. Two who recommended not going ahead with closely spaced basing recommended going ahead and basing it either in an interim fashion or permanently in Minuteman silos.

Senator BYRD. Mr. Secretary, since three out of the five members of the Joint Chiefs recommended against going ahead with the Dense Pack basing mode at the present time, do you plan to reevaluate the proposal?

Secretary WEINBERGER. No, sir. That information was before us at the time we made the recommendation and the time the President made the decision.

Two of the Chiefs, as General Vessey said, did recommend going ahead at this time. There was no consensus among the three who recommended not going ahead with it at this time, in this mode, as to what we should do.

The simple fact of the matter is that the deployment on an interim basis in a hardened silo had been forbidden to us by the Congress. So that was not a viable option to consider. We, of course, could have come back and said we considered all these things and we would like you to reverse the prohibition that you issued to us last year, but again that would have led, I felt, to a great deal more delay and have added greatly to the danger.

So, I concluded that despite the respect I have for all of these views and despite the fact that an easier recommendation would have been to wait and see and do a little more study, that it was the better decision to recommend to the President that we proceed with this mode even though, as Senator Brady has said, it is not perfect. We are not aware of any mode that is perfect, but we are aware of an overriding danger and an overriding need to get this missile with its capability to restore our deterrent in the ground where it can be utilized.

It is also of overriding importance that we proceed on schedule to do that.

Senator BYRD. When you say on schedule, are you speaking of the March schedule?

Secretary WEINBERGER. I am speaking of the initial operating capability in 1986. If the House decision should stand, we would be delayed, I don't know how long, but we would be delayed a serious amount of time in proceeding with the missiles production. To meet an initial operating capability, it is necessary, as you know, in these systems to proceed along several tracks at once.

I think 1986 is none too soon. It is farther off than I would like to see us have this deployed.

Senator BYRD. Before you can proceed, you would need the approval of the Congress for whatever basing mode you decide on?

Secretary WEINBERGER. Of course.

Senator BYRD. Thank you.

Thank you, Mr. Chairman.

Chairman TOWER. Thank you, Mr. Secretary and gentlemen.

I believe Senator Warner has one additional question he would like to ask.

Before he does, let me say that the intention of the Chair is to reconvene the committee on Friday morning at 10 a.m. to receive the briefing by General Skantze on the aspect of the close spaced basing system. I would urge all of my colleagues to be in attendance. It will be a public hearing. I think it will be the most extensive public briefing done on this matter, at least in a forum of this kind. I would urge the same attendance we have had here today. We had only one Senator absent and he was necessarily absent. I thank everyone for turning up today.

[The meeting scheduled December 10, 1982 was canceled.]

Senator WARNER. Just a quick succinct question.

All the Free World is looking to you as the Chief negotiator in the arms control area to reach the goal set by the President. If the Congress kills this program, what is the likelihood of achieving those goals.

Ambassador ROWNY. It will be extremely difficult, Senator, extremely difficult. The handicap will be enormous. The President's proposal is based on a modernized Triad; Peacekeeper is an absolutely essential element.

As the President said last night, it would handicap us and make it extremely difficult to bring back a treaty of the type I would bring back. As you can understand, I could bring back a treaty, but it is not one I would present to you as a responsible agreement, one which was equitable and verifiable.

Senator WARNER. Do you concur in that observation, Mr. Secretary?

Secretary WEINBERGER. Completely. The President made a comment recently that he might as well bring the negotiators home if this program is not adopted. Some people have looked on that as some sort of threat.

That is not a threat at all. It is a very calm and reasoned statement of what would happen. What he meant is that there would be no Soviet negotiators left at Geneva. There would not be any incentive to stay.

This is a reasoned analysis of what would happen if this program is defeated.

Chairman TOWER. Senator Wallop has questions to submit for the record which I will submit in his behalf.

Let me say that I applaud the President for making a decision. It was a difficult decision. None of the options were attractive. I applaud him for having made the decision.

The politically easier thing for him to have done is to recommend that we do nothing. He followed the mandate laid down by the Congress to provide us with a decision by December 1. He beat that time by about 8 days.

I think that we owe him, ourselves, we owe the country the obligation to get into the matter as fully as possible, develop as fully as possible a record. In that connection we will have the briefing on Friday morning.

I would anticipate, Mr. Secretary, this is not the last time we will be discussing the matter with you.

Senator DENTON. Mr. Chairman, we then will not be reconvening at another time with these gentlemen in the immediate future?

Chairman TOWER. Not in the immediate future. Questions may be submitted for the record. We may have an additional hearing before the end of the lameduck session, probably with other participants.

Senator DENTON. A 10-second remark.

If there remains, and I believe there will, an element of doubt regarding the total validity of the invulnerability of the Dense Pack basing mode of the MX, I think that will always be the case until we went into the horrible contingency of nuclear war, would that degree of doubt not exist in the Soviet mind to an even greater degree, because I have listened to hundreds of hours of reports on these tests and I would sure be in doubt, and I know something about this.

Would that not constitute the nature, the fundamental ingredient of deterrence?

Secretary WEINBERGER. That is correct. You are right. That is exactly what it is. On the other hand, and with all of its consequent perils for all of us, there is no doubt whatever in their mind that if we stay where we are now, they can destroy the Minuteman system.

Chairman TOWER. Thank you, Mr. Secretary, General Vessey, Ambassador Rowny and Dr. Keyworth. Thank you very much.

Secretary WEINBERGER. I would be derelict in my duty if I did not express my appreciation for the courtesy and thorough hearing we have had, as always, before this committee.

We are most grateful to you. Thank you.

[Questions with answers supplied follows:]

QUESTIONS SUBMITTED BY SENATOR JOHN TOWER

PRESIDENT'S NOTIFICATION TO CONGRESS

Senator TOWER. In our conference report on the fiscal year 1983 defense authorization bill the committee requested of the executive branch a statement which would accompany the President's notification of his selection of a basing mode for the MX that outlined the ancillary and complementary systems envisioned to support the initial deployment mode in particular, an assessment was sought of the anticipated costs and key decision points involved in developing and deploying such elements as ballistic missile defense, deceptive basing, deep underground basing, etc. We have not received this statement to date and I wonder if we can

get your assurance that it will be forthcoming shortly? Would you care to elaborate at this time on the projected costs and timing of decisions to pursue such features of a larger system?

Secretary WEINBERGER. The President did provide the required notification with accompanying statement to the President of the Senate and the Speaker of the House on November 22, 1982, and a copy is attached for your information.

Senator TOWER. Would you amplify for the record the considerations which motivated the three Service Chiefs to oppose the MX/CSB option? To what degree do you in your personal judgment, believe that budgetary or inter-Service rivalries might have been factors in the dissenting Chiefs' views?

To the extent these considerations were not uppermost, were their reservations technical or operational in nature?

General VESSEY. First let me again make it clear that all members of the JCS support the need for the MX and support fielding the MX rapidly. The differences of view were concerned with the basing mode—CSB. It's not possible for me to delineate all of the considerations that motivated individual Chiefs in reaching their decisions, only they can do that fully. However, I want to make it clear that each member of the JCS gave his thoughtful, well considered views to the Secretary of Defense and that I took their views to the President. All of the JCS views were considered by the Secretary and the President. The Secretary explained to the JCS in person, in considerable detail, the reasoning behind his recommendation to the President. The Chiefs understood the reasons behind the President's decision and support implementing that very important decision to strengthen our strategic deterrent forces. The "system" for JCS advice to the President worked.

As to my personal judgment on budgetary or inter-Service rivalries, I know that it is absolutely wrong to characterize the factors influencing the Chiefs' views as rivalries—budgetary or inter-Service. I think it is fair to say that the cost of deploying MX in CSB, with the potential cost of follow-on responses to Soviet initiatives, was a factor in forming the views of the Chiefs who recommended a different basing mode. All the Chiefs considered the costs in the context of the overall cost of our strategic modernization program and the requirement to support improvements in conventional forces. We arrived at somewhat different conclusions.

Technical uncertainties and the potential operational impacts of these uncertainties were important considerations and affected the views of the Chiefs who had reservations. The Chiefs also had questions concerning Soviet ability to counter CSB, the times in which the Soviets could produce the "counters" and the potential costs of having to defend against these Soviet moves. Again, the Chiefs arrived at different conclusions.

To a greater or lesser degree, budgetary impacts and technical uncertainties were all factors which influenced the Chiefs' individual recommendations.

I would add that I, as did the other Chiefs, reviewed all the factors in great detail. I remained convinced that the deployment of MX is required as a part of the strategic deterrent force. I became convinced that Closely Spaced Basing, with its growth options, will provide the survivability the MX needs to do the job that it has to do. I also became convinced that the technical uncertainties in CSB can be resolved to permit fielding the weapon on time and within the proposed program budget. CSB will create grave uncertainties for the Soviet operational planners and thus add to deterring nuclear war. The deterrence—the insurance—that it buys is well worth the cost.

NEED FOR SOVIETS TO MODIFY FORCES

Senator TOWER. Ambassador Rowny, to what extent do you believe that the fact that the Soviets must modify their strategic forces substantially in order to acquire a capability to place MX/CSB in jeopardy holds promise for negotiating an arms control agreement that would preclude such developments?

Ambassador ROWNY. While an arms control agreement could limit the many factors that comprise strategic force destructive potential, we should bear in mind that arms control is neither the panacea nor the solution to our current ICBM vulnerabilities. The Soviets must be as willing to reach an agreement as we are. We have boldly announced our defensive deterrent policy and our arms control hopes—the Soviets have not. Additionally, the Soviets recognize the potential of the MX system and they probably wish to see the numbers of

deployed MX held to a minimum. This will provide a powerful incentive for them to seriously negotiate to reach an agreement.

Senator TOWER. Wouldn't the adoption by both sides of a closely spaced basing system present a unique opportunity for both the United States and the Soviet Union to restructure their strategic forces in such a way that the nuclear balance could be established at sharply reduced and more stable force levels—with both sides having confidence that their land-based strategic deterrent would be invulnerable to preemptive attack?

Ambassador ROWNY. Certainly adoption by both sides of the closely spaced basing system could present the unique opportunity you have stated in your question. I cannot state whether the Soviets would agree or not to restructure their forces in the same manner and with the same technologies that we have chosen to try to make our forces more survivable. You have put your finger on the preeminent strategic question of the day: how to make land-based strategic deterrent forces less vulnerable to preemptive attack. The United States is taking a limited and measured response in developing and deploying the Peacekeeper missile system. The Soviet buildup, which includes today over 600 ICBMs equal or superior to the MX, has rendered our land-based deterrent vulnerable to preemptive attack resulting in high destruction levels. This does not create a stable situation, and it is stability which the U.S. through our START proposal seeks.

QUESTIONS SUBMITTED BY SENATOR STROM THURMOND

PREEMPTIVE FIRST STRIKE

Senator THURMOND. Mr. Secretary, in a pre-emptive first strike against our Minuteman missiles and our bombers, what percentage of these systems could we reasonably expect to lose?

ANSWER. A preemptive first strike against U.S. Minuteman missiles and strategic bombers could occur when our strategic forces are in one of two planned readiness postures. In the first case, the Day-to-Day force posture, essentially the ICBMs and approximately thirty percent of the bomber force are launch ready. In the second case, the Generated Force Posture, a crisis situation would have caused us to increase our strategic force readiness.

Pre-emptive destruction of our ICBM and bomber force is not only contingent upon the force posture at the time of pre-emption, but also our reaction to tactical warning of a Soviet attack. Since our ICBMs are not seriously threatened by Soviet SLBMs, the Minuteman missiles have adequate time to launch between an SLBM attack and Soviet ICBM impacts on our missile fields. In either force posture, only a limited number of Minuteman missiles would be lost if ICBM launch after SLBM impacts but before Soviet ICBM impacts. Approximately 95 percent could be lost if we ride out an attack.

Regarding the bomber force, in the Day-to-Day force posture, the alert aircraft would survive the pre-emptive attack since the force can launch on warning of a Soviet missile attack. Much of the remaining force would be lost. In the generated posture virtually all of the aircraft would survive.

HUMAN CASUALTIES

Senator THURMOND. What would be a good estimate of human casualties in such a strike?

ANSWER. U.S. human casualties in a pre-emptive attack such as discussed above is estimated to be over [deleted] prompt casualties.

UPGRADE OF SOVIET ANTISUBMARINE WARFARE (ASW) CAPABILITIES

Senator THURMOND. Since the Soviet Union has achieved a very reliable first strike capability, has the intelligence data you have seen indicate large increases in efforts to upgrade their anti-submarine warfare (ASW) capability and achieve a defense against the cruise missile.

ANSWER. Soviet efforts to increase their ASW capabilities have involved an evolutionary and broad spectrum R&D effort over the past two decades. The products of this effort have been successive generations of improved surface combatants, submarines, fixed and rotary wing aircraft and fixed sensor systems as well as a wide variety of associated ASW weapons. [Deleted.]

CURRENT STATE OF SOVIET ANTISUBMARINE WARFARE (ASW) CAPABILITY

Senator THURMOND. What is the current state of Soviet ASW capability?
ANSWER. [Deleted.]

SOVIET ANTISUBMARINE WARFARE (ASW) TECHNOLOGY

Senator THURMOND. How far behind us are the Soviets in ASW technology?
ANSWER. [Deleted.]

SOVIET EFFORT TO CATCH US

Senator THURMOND. If the Soviets can devote maximum resources to the effort, how long will it be before they catch up to the United States ASW capability?

ANSWER. The response to the question has to be formulated in terms of Soviet research efforts relative to performance of U.S. submarines. [Deleted] to judge some greater level, especially in terms of relative Soviet priorities among areas of research such as ABM, space, and ballistic missile reentry vehicle programs. Basically there are two factors involved in determining significant improvement in Soviet ASW capability. They are achievement of a broad-ocean detection, localization, and classification capability; and advances in U.S. submarine designs relative to improved sound quieting and thermal and magnetic blanking. This response will focus on the former. [Deleted.]

QUESTIONS SUBMITTED BY SENATOR JOHN W. WARNER

TIMING OF RESPONSIVE THREAT TO PEACEKEEPER

Senator WARNER. In this unclassified forum, can you give the Committee your best estimate of the length of time it would take the Soviets to develop responsive threats to a U.S. deployment of MX in a Closely Spaced Based System? There has been discussion in the press and elsewhere about the possibility that such threats might be available in the last 1980's. Would you comment on the validity of those estimates?

Secretary WEINBERGER. We believe that the Soviets are capable of beginning to deploy in meaningful numbers a responsive threat to a stand-alone CSB deployment by the early 1990's. We are even more certain of our capability for timely deployment of simple counter-measures against any of the threats which could be mounted by that time. One of our strongest hopes, however, is that, instead of doing so, the Soviets would negotiate a verifiable arms reduction agreement with us.

IMPACT OF PEACEKEEPER/CSB ON NATO ALLIANCE

Senator WARNER. Mr. Secretary, having just returned from consultations with our NATO allies, Could you give us your impression of their views of the CSB proposal?

What impact do you expect a decision not to proceed with a MX deployment in the United States would have upon our leadership of the NATO Alliance? The long-range Theater Nuclear Forces Modernization Program. The talks on Theater Nuclear Force reductions?

Secretary WEINBERGER. As you know, the NATO Allies long have supported deployment of the Peacekeeper in a survivable basing mode. While they have not had much time to examine the CSB system, and consequently are still in the process of learning the technical details of the system, they have emphasized the importance of CSB to stability and the maintenance of deterrence.

A decision not to deploy the Peacekeeper could produce a number of adverse and interrelated effects on the NATO Alliance. In the first place, such a decision would likely weaken U.S. leadership in NATO, since the allies could not help but have diminished confidence in a United States that cannot be depended on to take the steps necessary to maintain its own security and that of the alliance as a whole. We cannot expect to retain our position of leadership in an alliance of free nations if we are unwilling to assume the responsibility such a position requires.

Deployment of the Peacekeeper is also important to our effort to modernize NATO's intermediate range nuclear forces (INF). Many of our NATO allies are watching the decision on the deployment of the Peacekeeper very closely to see if the United States will modernize its own land-based missile force. They see the deployment of Peacekeeper as analogous to INF modernization in their countries. Thus, failure to deploy Peacekeeper could undercut the ability of key allied governments to muster and hold the political support necessary to back Pershing II and ground-launched cruise missile deployments in their countries. Failure to go ahead with modernization of NATO's theater nuclear forces would, in turn, have disasterous consequences for our INF negotiations in Geneva, since it would remove any incentive the Soviets would have to negotiate theater nuclear force reductions.

SOVIET COMPLIANCE

Senator WARNER. Ambassador Rowny, based upon your considerable experience with the Soviets and your keen interest in their past track record with respect to SALT agreements, how would you characterize their approach to adherence with the terms of arms control agreements?

a. Is it fair to say that they tend to comply with the exact letter of the agreements while exploiting to the maximum any ambiguities or latitude in interpretation of such agreement?

b. Is it not the case that the United States has historically abided both by the letter and the spirit of these agreements in what might be called a strict construction of the accords into which we have entered with them, whereas the Soviet Union might be said to be more inclined to a loose construction of these agreements when it serves their purposes?

Ambassador ROWNY. a. Yes, I believe the Soviets would seek the ambiguity and latitude that can be found in interpreting past agreements and use that for their benefit. In the past, as you know, there has been some controversy as to whether they have adhered to the spirit of agreements and taken advantage of loopholes whether such were deliberately included in the agreements or by omission.

b. I believe that the United States has abided by both the letter and the spirit of the SALT agreements, and it seems to me that the Soviets will take advantage of any loose construction that can be found in the letter of the agreements. The lesson we have learned from the SALT II experience is a need for more precisely drafted treaties supported by more effective vertification provisions, and further supported by better intelligence.

QUESTIONS SUBMITTED BY SENATOR JOHN STENNIS

Senator STENNIS. You said the MX was a fundamental element of the American START proposal and negotiating position.

a. Would you explain why the MX is needed to provide an adequate deterrent at the lower warhead levels proposed in START?

b. At those lower warhead levels, could the SIOP be executed without the MX?

c. What would be the deterrent situation if both sides agreed on the 5000 warheads?

Ambassador ROWNY. a. The United States START proposal was premised on having the modernized Triad President Reagan proposed on October 2, 1981 under this strategic force modernization program. These views were subsequently incorporated into the U.S. START proposal for presentation in Geneva. At greatly reduced levels of forces, with an expanding Soviet target base, and the substantially reduced numbers of the U.S. proposal, it will be necessary to have more effective and modernized strategic forces. In order to accept and live with the greatly reduced levels, modernized strategic systems such as the Peacekeeper are necessary to provide the deterrent we need.

b/c. Our START proposal is for 5000 ballistic missile warheads (of which no more than 2500 could be on ICBMs) on 850 deployed ballistic missiles. We could not assure the deterrent capability of our ICBM force if we retained only the Minuteman missile system and had to accept the 5000/2500/850 levels. Our START levels are premised on a modernized Triad, including the MX. Without the MX, we would not have the combinations of accuracy, warhead numbers, yield, and deployed missiles to allow us to accept the reduced force structure envisioned.

QUESTIONS SUBMITTED BY SENATOR MALCOLM WALLOP

Senator WALLOP. If the Congress were ultimately to follow the lead of the House and delete funding for MX in the FY 1983 Defense Appropriation, will site selection and land acquisition in Wyoming go ahead in 1983?

Secretary WEINBERGER. That would have to be evaluated in light of the directions received from Congress. The Air Force does not intend to take action inconsistent with congressional direction.

Senator WALLOP. In acquiring property within the geotechnically suitable area in Wyoming, will the Air Force give strong preference to those locations owned by willing sellers or willing leasors?

Secretary WEINBERGER. Yes, provided we can put together tracts that are large enough and reasonably well configured. The silo array needs to be in a column about 14 miles long and a mile and a half wide, using about 20 square miles.

Senator WALLOP. Again within the area suitable for deployment, would the Air Force prefer from an impact point of view, to select areas close to Cheyenne with a population of nearly 50,000 rather than near the very small towns in the eastern part of that area?

Secretary WEINBERGER. From an impact point of view, the Air Force would prefer to select an area with minimal environmental and socioeconomic consequences. However, other factors such as operational and geotechnical requirements must be considered.

Senator WALLOP. Does the Air Force intend to follow Wyoming state environmental law, including the industrial siting act, except where it conflicts with federal law?

Secretary WEINBERGER. The Air Force will comply with Wyoming pollution control laws, which have been made applicable to Federal agencies by an Act of Congress. We are working with the State on procedures for following the industrial siting process that avoid conflicts with the Constitution and Federal statutes.

Senator WALLOP. Is the Air Force confident of its projection of water usage in the construction and operations phases?

Secretary WEINBERGER. We are confident of our water usage projections, which are based on the best data available. As more specific details of the project are known, including manpower estimates, we will continue to refine our estimates.

Senator WALLOP. Will state water law be followed in the acquisition of surface and ground water for MX?

Secretary WEINBERGER. Yes, water may be acquired by appropriation, lease or purchase. State approval under Wyoming law will be obtained whichever method or methods are pursued.

Senator WALLOP. Can Wyoming citizens make their views known on the Legislative Environmental Impact Statement for the selection of Wyoming as the area for Closely Spaced Basing of M-X?

Secretary WEINBERGER. Yes. Comments are invited from the public. They may be sent to AFRCE-M-X/DEV, Norton AFB, CA 92409. The Air Force will send compilation of all comments received to the Armed Services and Appropriations Committees of the Congress, with Air Force responses accompanying them or following on a timely basis.

Senator WALLOP. Can you assure me that there will be public hearings in Wyoming early next year as part of the siting E.I.S. process so the concerns of Wyoming residents can be heard?

Secretary WEINBERGER. Yes. There will be a public scoping meeting early in the year, at which views will be sought on the issues to be addressed in the EIS. After the draft EIS is published, there will be a public comment period and a public hearing will also be conducted on the environmental issues associated with the draft EIS.

Senator WALLOP. Are you confident that Wyoming is the best location for CSB based on operational and geotechnical considerations?

Secretary WEINBERGER. The selection of the area around F. E. Warren AFB for deployment of Peacekeeper in CSB was based upon many factors, two of which included operational and geotechnical. Others included potential environmental impacts, cost effectiveness in terms of existing infrastructures, compatibility with existing missions, and distance from potential array locations to the support base, to name a few. When all factors were evaluated, the area around F. E. Warren AFB emerged as the best location.

Senator WALLOP. Will the Department of Defense provide funding to the State of Wyoming to assist in planning for impact mitigation?

Secretary WEINBERGER. The Office of the Secretary of Defense is currently providing a small planning grant to pay for the preparation of a detailed work plan for community impact planning. As soon as there is an agreed upon work plan, we will redirect additional funding for planning.

Senator WALLOP. As mitigation studies project major impacts on public facilities, will you provide or recommend federal funding for impact mitigation?

Secretary WEINBERGER. While it is not yet apparent whether and to what extent the impacts of this proposal will require new public facilities, the Air Force will support requests for appropriate Federal funding for any that are needed at the proper time. At present, we have no authorization or appropriation to make grants for impact assistance, so we are unable to make categorical commitments. The Department of Defense desires to minimize or alleviate impacts and we fully expect to support all appropriate means of mitigation.

Senator TOWER. The hearing is adjourned.

[Whereupon, at 1:25 p.m., the committee adjourned, to reconvene at 10 a.m., Friday, December 10, 1982.]

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